COMPSAC 2012
Trustworthy Software Systems for the Digital Society

Izmir, Turkey
16-20 July

www.compsac.org

General Chairs: Fevzi Belli and Elisa Bertino
Program Chairs: Xiaoying Bai, Atilla Elçi, Mohammad Zulkernine
Workshop Chair: Cristina Seceleanu
Local Organizing Chair: Tugkan Tuglular

IEEE

IEEE computer society

Welcome to COMPSAC 2012!

On behalf of the Organizing and Program Committees, we happily welcome you to Izmir, to attend the 36th Annual International Computer Software and Applications Conference (COMPSAC). The technical theme of this year's COMPSAC focuses on foundations, methodologies, architectures, and mechanisms that support modeling, design, implementation, and evaluation of trustworthy software systems and applications that are critical for the digital society. As such, "Trustworthy Software Systems for the Digital Society" forms this year's theme. The keynotes, program features, research and industrial practice papers, and panels with a wide range of topics, focusing on the secure use of clouds to software engineering of critical infrastructure systems such as, but not limited to, civil, telecommunications, and medical systems. To properly engineer such systems, the foundations, methodologies, and mechanisms that support the design, modeling, and evaluation of software systems must come from diverse sources. To secure such systems, security methodologies and techniques must be applied.

Topics of interest of this year's COMPSAC include requirement analysis, co-analysis and co-design, modeling, design, development, testing, measurement, verification and validation for performance, safety, security, dependability, and usability constraints, and use of novel infrastructures including the cloud. Effective construction of systems for the digital society is not limited solely to the field of computer science and engineering and is truly a multidisciplinary effort. Multidisciplinary work, research and development software prototypes, industry-university collaborations, all based on new emerging and critical technologies are all part of COMPSAC.

We take this opportunity to thank the Track Chairs, Organization Chairs, and members of the Program Committee (PC) who have worked tirelessly soliciting and reviewing papers, and have participated in the PC program discussions and selected papers for the final technical program. We thank the reviewers for their hard work in providing quality reviews for each paper. We specifically acknowledge the contributions of the Program Chairs Xiaoying Bai, Atilla Elci, and Mohammad Zulkernine in creating and setting the program. Special thanks are extended to Professor Carl Chang for his enthusiastic contribution to the entire technical program development process and for his serving as the Standing Committee Chair and to the faculty, staff, and students at Iowa State University for running conference websites and paper submission system and to the IEEE CS staff for organizing the PC meeting in Los Angeles. Finally, we wish to specially thank Tugkan Tuglular for his excellent local arrangements in Izmir and Laurel Tweed for all her work in several organizational aspects of the conference.

We also thank all the keynote speakers, panelists, and authors for their contribution to the exciting technical program in COMPSAC 2012.

We trust that COMPSAC 2012 will provide you with a valuable opportunity to interact with other researchers and practitioners from institutions around the world. Enjoy!!

General Chairs,
Fevzi Belli and Elisa Bertino
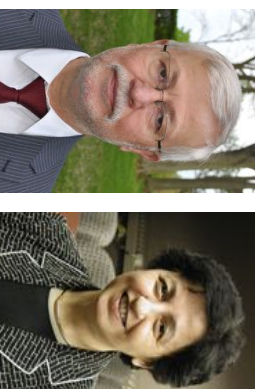
Monday July 16
ICT Vision for Izmir Search Conference
COMPSAC/SAINT Welcome Reception
Sponsored by Izmir Municipality

Buses will depart from Swissotel at 16:00 for a short tour of the area, landing at the Izmir fair area, location for the ICT Vision for Izmir Search Conference. This conference seeks to explore ways for the city of Izmir to encourage the growth of technology-based industry and research. All COMPSAC/SAINT attendees are welcome to attend! Reception and social hour will follow. Attendees who can only attend the reception should gather in the Swissotel lobby at 19:30 for a guided walk to the reception location.

17:00-20:00: ICT Vision for Izmir Search Conference
20:00-21:30: Welcome Cocktail Reception
21:30: Walk back to Swissotel

Tuesday July 17
Conference Banquet

The COMPSAC/SAINT banquet will be an outdoor gala at the archaeological ruins of Old Smyrna called Agora.

18:30: Walking from Swissotel to Agora
19:00: Tour
20:00: Dinner
21:30: Walking back to Swissotel

Wednesday July 18
Bus Trip to Ephesus

Local organizers have arranged for a bus trip for all conference attendees to visit Ephesus. Once an ancient Greek city, today Ephesus is a major archeological site located approximately 1 hour south of Izmir. Purchase dinner following the tour at Kusadasi, a nearby town on the Aegean coast.

Buses will depart from Swissotel at 16:00
17:00: Arrival at Ephesus
17:00-19:30: Tour at Ephesus and House of Virgin Mary
19:30: Board bus for Kusadasi
20:00-21:30: Time for exploring, dinner
21:30: Board bus for return trip to Swissotel, Izmir

COMPSAC 2012: Program at a Glance

July 16: Workshop Day

Room	Karşıyaka 1	Karşıyaka 2	Karşıyaka 3	Konak 1	Konak 2	Bergam a1	Bergama 2	Bergama 3	Petek	Didim
8:30-9:30	MidArch, SSS, METHOD: Invited Talk			IWSC 1			QUORS 1	REFS 1		STA 1
9:30-10:00	Morning Break: Smyrna Auditorium (5th floor)										

Room	Karşıyaka 1	Karşıyaka 2	Karşıyaka 3	Konak 1	Konak 2	Bergam a1	Bergama 2	Bergama 3	Petek	Didim
10:00-12:00	SSS 1	MidArch 1	METHOD 1	IWSC 2	CFSE 1	MVDA 1	QUORS 2	REFS 2	SAPSE 1	STA 2
12:00-13:30	Lunch: Smyrna Auditorium										
13:30-15:00	SSS 2	MidArch 2	METHOD 2	IWSC 3	CFSE 2	MVDA 2	QUORS 3	REFS 3	SAPSE 2	STA 3
15:00-15:30	Afternoon Break: Smyrna Auditorium (5th floor)										
15:30-17:00	SSS 3	MidArch 3	METHOD 3	IWSC 4		MVDA 3	QUORS 4	REFS 4		STA 4

Tuesday July 17: Conference Day 1

8:30 - 10:00 Grand Efes Ballroom (1st floor): Conference Welcome, Opening Remarks, Best Paper Awards
Joint COMPSAC/SAINT Keynote: George Strawn - *Trust and Confidence*
Chair: Carl Chang

Room	Konak I/2 (3rd floor)	Bergama I (3rd floor)	Bergama 2/3 (3rd floor)	Didim (3rd floor)
10:00-10:30	Morning Break: Smyrna Auditorium (5th floor)			
10:30-12:00	Software Life Cycle, Evolution & Maintenance I	Reliability, Metrics & Fault Tolerance I	Software Testing I	Panel 1
12:00-13:30	Lunch: Smyrna Auditorium			
13:30-15:00	Software Life Cycle, Evolution & Maintenance 2	Reliability, Metrics & Fault Tolerance 2	Software Testing 2	Software Architecture & Design I
15:00-15:30	Afternoon Break: Smyrna Auditorium 1 (5th floor)			
15:30-17:00	Software Life Cycle, Evolution & Maintenance 3	Security	Software Architecture & Design 2	Panel 2

Wednesday July 18: Conference Day 2

8:30-10:00am Grand Efes Ballroom (1st floor): Joint COMPSAC/SAINT Keynote: Ross Anderson
Cyber Security: Threats Real and Imagined
Chair: Elisa Bertino

Room	Konak I/2 (3rd floor)	Bergama I (3rd floor)	Bergama 2/3 (3rd floor)	Didim (3rd floor)	Smyrna 1 (5th floor)
10:00-10:30	Morning Break: Smyrna Auditorium (5th floor)				
10:30-12:00	Requirements Engineering	Panel 3	Formal Methods	Fast Abstracts: 10:15-12:30	Posters
12:00-13:30	Lunch: Smyrna Auditorium, Joint COMPSAC & SAINT Planning Meeting				
13:30-15:00	Grand Efes Ballroom: COMPSAC/SAINT Joint Panel on Social Computing				

Location: Didim - All welcome!

Thursday July 19: Cloud Day

8:30 – 10:00 Grand Efes Ballroom (1st floor): Joint COMPSAC/SAINT Panel on Cloud Computing
Chair: Vladimir Getov

Room	Konak I/2 (3rd floor)	Bergama I (3rd floor)	Bergama 2/3 (3rd floor)	Didim (3rd floor)	Smyrna 2 (5th floor)	Karşıyaka 3
10:00-10:30	Morning Break : Smyrna Auditorium (5th floor)					
10:30-12:00	Cloud Computing I	Web-Based Systems	Applications I	Panel 4	Industry Track	Doctoral Symposium (presentation session)
12:00-13:30	Lunch: Smyrna Auditorium					
13:30-15:00	Cloud Computing 2	Smart & Semantic Computing	Applications 2	HCI & Usability	Cloud Computing Security Tutorial	SAINT sessions
15:00-15:30	Afternoon Break: Smyrna Auditorium (5th floor) — Doctoral Symposium poster session also from 13:30-15:30 in Smyrna1					
15:30-17:00	Real-Time & Embedded System	Mobile & Pervasive Computing	Applications 3 (Education)	Panel 5		

Friday July 20: Workshop Day

Room	Konak 1	Konak 2	Bergama 1	Bergama 2	Didim (3rd floor)
10:00-12:00	IESD-TIP 1	CORCS	ESAS 1		STPSA.1
12:00-13:30	Lunch: Smyrna Auditorium				
13:30-15:00	IESD-TIP 2	CORCS	ESAS 2		STPSA 2
15:00-15:30	Afternoon Break: Smyrna Auditorium (5th floor)				
15:30-17:00					STPSA 3

Joint SAINT/COMPSAC Doctoral Symposium
Presentation session: Thursday, 10:30am, Karşıyaka 3
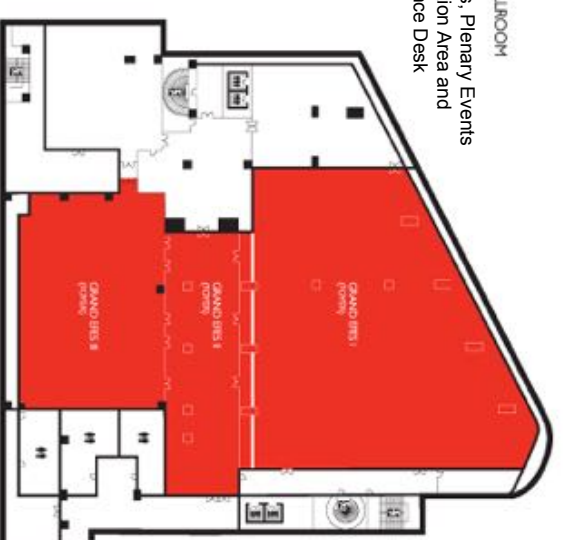**Poster session: Thursday 1:30-3:30, Smyrna Auditorium (during the break)**

All COMPSAC and SAINT attendees are encouraged to participate in the joint Doctoral Symposium. Participating Students have settled on a research topic for their dissertation or thesis and have produced some preliminary results, but have time to benefit from the advice and guidance of experienced researchers. In addition to the student presentations and posters listed in the program, other students attending the conferences are welcome to bring posters and discuss possibilities for future work with our conference attendees.

The joint poster session will take place from 1:30-3:30pm on Thursday - please stop by the poster displays and visit with our student researchers!
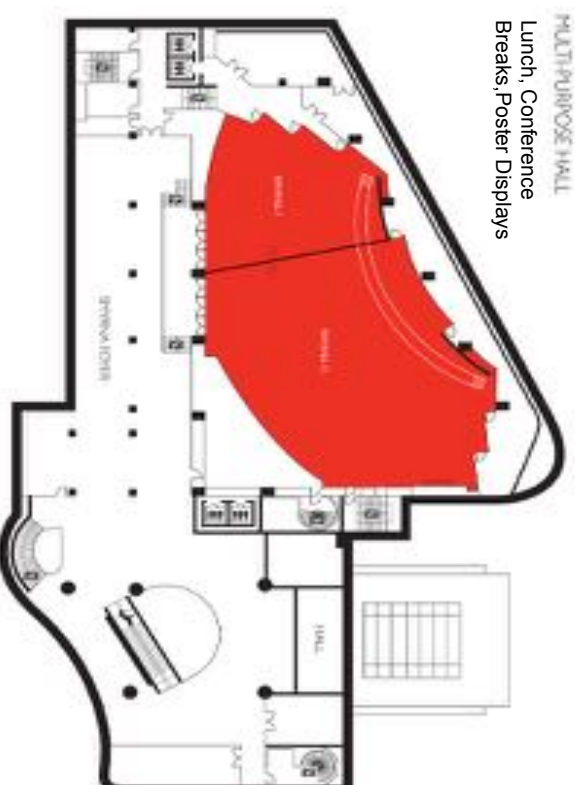
3rd floor:
Breakout Sessions

LEVEL 5
MULTI-PURPOSE HALL
Lunch, Conference
Breaks, Poster Displays

LEVEL 1 BALLROOM
Keynotes, Plenary Events
Registration Area and
Conference Desk

IEEE COMPSAC International Workshops: Monday, July 16

8:30-9:30   Workshop Sessions

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Location: Karşıyaka 1 (3rd floor)

Invited Talk: *Asian Information HUB Project: NICT's R&D Vision and Strategies for Universal Communication Technology in the Big Data Era*
Michiaki Iwazume, National Institute of Information & Communications Technology, Japan

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Chair: Colette Rolland
Location: Bergama 3 (3rd floor)

Keynote: *A Business Transaction Framework Based on Problem Diagnosis and Resolution*
Willem-Jan van den Heuvel

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Chair: Rajesh Subramanyan
Location: Didim (3rd floor)

Keynote: *Attack Surface Reduction through Software Testing*
Tugkan Tuglular, Izmir Institute of Technology, Turkey

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 1
Location: Konak 1

Welcome from General Chair:
Kai-Yuan Cai, Beijing Univ. of Aeronautics and Astronautics, China
Remarks from Chair of Steering Committee: Stephen S. Yau, Arizona State University, USA
Report from Program Co-chair: Xianping Tao, Nanjing University, China
Keynote Address: *Software Cybernetics in the Age of Cloud Computing*
Hong Zhu, Nanjing University, China

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 1: Software Evolution
Chair: Hongji Yang
Location: Bergama 2 (3rd floor)

8:30-8:50   *Evaluating Extended Refactoring Guidelines*
Wafa Basit
8:50-9:10   *Quantifying Quality of Software Design to Measure the Impact of Refactoring*
Tushar Sharma
9:10-9:30   *Mining Association Rules to Facilitate Structural Recovery*
Wu Ren, Wenyun Zhao

9:30-10:00   Morning Break – Smyrna Auditorium (5th floor)
10:00-12:00   Workshop Sessions

SSS 2012: The 5th IEEE International Workshop on Service Creation and Systems
Session 1: Service Creation and Evolution
Chair: Xiaodong Liu
Location: Karşıyaka 1 (3rd floor)

10:00-10:30   *Automated Web Service Composition using Generic Programming*
Liyuan Xiao, Carl K. Chang, Hen-I Yang, Kai-Shin Lu, Hsin-yi Jiang

10:30-11:00   *User's Requirements Driven Services Adaptation and Evolution*
Ziyan Xu, Haihong Zhao, Lin Liu
11:00-11:30   *An Adaptive Quality Level Selection Method for Efficient QoS-Aware Service Composition*
Jae-Hyun Cho, Jang-Ho Choi, Han-Gyu Ko, In-Young Ko
11:30-12:00   *A Novel Solution of Distributed File Storage for Cloud Service*
Yu Zhang, Weidong Liu, Jiaxing Song

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Atshshi Kanai
Location: Karşıyaka 2 (3rd floor)

10:00-11:00   Invited Talk: *Application Architecture Aiming for User-centric Information Discovery and Retrieval*
Toru Kobayashi
11:00-11:30   *Secure ID Transformation for Robust Pseudonymity against Backflow of Personal Information in SAML Federation*
Wataru Oogami, Takaaki Komura, Yasuo Okabe
11:30-12:00   *Secure Monitoring for Identity Federations and Distributed Systems*
Miguel Macias Enguidanos, Jaime Perez Crespo

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
Chair: Florian Skopik
Location: Karşıyaka 3 (3rd floor)

10:00-10:15   Welcome Address
Edzard Höfig, Ina Schieferdecker
10:15-10:45   *Linked Open Data Aggregation: Conflict Resolution and Aggregate Quality*
Tomáš Knap, Jan Michelfeit, Martin Necaský
10:45-11:15   *Identification and Utilization of Components for a Linked Open Data Platform*
Evanela Lapi, Nikolay Tcholtchev, Louay Bassbouss, Florian Marienfeld, Ina Schieferdecker
11:15-11:45   *Sensor Information Fueling Open Data*
Miguel Oliver, Manuel Palacin, Albert Domingo, Victor Valls

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 2
Chair: Tugkan Tuglular, Izmir Institute of Technology, Turkey
Location: Konak 1 (3rd floor)

Evolution of a Software System across Design and Implementation Stages in Dynamically Changing Environments
Bahtijar Vogel, Arianit Kurti, Marcelo Milrad, Tommi Mikkonen
A Graph Transformation Based Approach for Modeling Component Migration in Mobile Environments
Yu Zhou, Xuefeng Yan, Zhiqiu Huang
Towards A General Supporting Framework for Self-Adaptive Software Systems
Liangdong Wang, Yang Gao, Chun Cao, Li Wang
Learning-Based Multi-Controller Coordination for Self-Optimization
Richang Lin, Bihuan Chen, Yi Xie, Xin Peng, Wenyun Zhao

CFSE 2012: The 4th IEEE International Workshop on Computer Forensics in Software Engineering
Chair: Vinod Polpaya Bhattathiripad
Location: Konak 2 (3rd floor)

Invited Talk: *Research and Development of IT Risk Communication Support System and Its Application to Digital Forensic Issues*
Ryoichi Sasaki

Cloud Log Forensics Metadata Analysis
Sean Thorpe, Indrajit Ray, Tyrone Grandison, Abbie Barbir

Proposal and Evaluation of the Digital Certificate System with Sumi-coating Module for Privacy Protection
Takashi Sakuma, Ryoichi Sasaki

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 1: Algorithms and Platforms
Chair: Leila Jemni Ben Ayed
Location: Bergama 1 (3rd floor)

10:00-10:30 · *A Graphical Language to Integrate Process Algebra and State Machine Views for Specification and Verification of Distributed Real-Time Systems*
Jinho On, Sujeong Woo, Moonkun Lee

10:30-11:00 · *A BPEL4WS Extension to Develop and Execute Grid Service Workflow Application*
Yousra Bendaly Hlaoui, Leila Jemni Ben Ayed, Imen Ben Fradj, Ahlem Ben Younes

11:00-11:30 · *A Distributed and Coordinated Massive DDOS Attack Detection and Response Approach*
Mohamed Karim Aroua, Belhassen Zouar

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 2: Reuse-Driven Design and Patterns
Chair: Xiaodong Liu
Location: Bergama 2 (3rd floor)

10:00-10:20 · *Towards Reuse-based Development for the On-Chip Distributed SoC Architecture*
Moazzam Fareed Niazi, Tiberiu Seceleanu, Hannu Tenhunen

10:20-10:40 · *Performance Comparison of Combined Collaborative Filtering Algorithms for Recommender Systems*
Dilek Tapucu, Seda Kasap, Fatih Tekbacak

10:40-11:00 · *Simplifying the Design of Signature Workflow with Patterns*
Hwai-Jung Hsu, Ming-Wei Tsai, Feng-Jian Wang

11:00-11:20 · *A New Cohesion Metric and Restructuring Technique for Object Oriented Paradigm*
Mehmet Kaya, James W. Fawcett

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Session 2: RE for Services Adaptation and Evolution
Chair: Eric Yu
Location: Bergama 3 (3rd floor)

10:00-10:20 · *Viewpoints and Issues in Requirements Engineering for Services*
Jolita Ralyte

10:20-10:40 · *A Goal-oriented Perspective on Approaches to Web Service Discovery*
Assar Said, Souveyet Carine, Aljoumaa Kadan

11:00-11:20 · *Software Service Evolution: A Requirements Perspective*
Feng-Lin Li, Lin Liu, John Mylopoulos

11:20-11:40 · *Representing Non-Functional Requirements on Services – A Case Study*
Clotilde Rohleder

SAPSE 2012: The 4th IEEE International Workshop on Security Aspects in Processes and Services Engineering
Chair: Stelvio Cimato
Location: Petek Boardroom (3rd floor)

10:00-10:30 · *Modeling of A-Posteriori Access Control in Business Processes*
Mohamed Karim Aroua, Belhassen Zouari

10:30-11:00 · *Petri-net-based Modeling and Resolving of Black Hole Attack in WMN*
Hejiao Huang, Qiang Zhou

11:00-11:30 · *Database as a Service: Towards a Unified Solution for Security Requirements*
Mohammad Ali Hadavi, Morteza Noferesti, Rasool Jalili, Ernesto Damiani

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 2: Agile Software Testing
Chair: Selma Tekir
Location: Didim (3rd floor)

10:00-10:45 · Invited Talk: *Asynchronous Software Testing*
Robert Hierons

Strategies for Agile Software Testing Automation: An Industrial Experience
Eliane Collins, Arilo Dias-Neto, Vicente Lucena

Adaptive Agile Performance Modeling and Testing of Embedded Systems
Marek Stochel, Mariusz Wawrowski

12:00-13:30 · **Lunch - Smyrna Auditorium**
13:30-15:00 · **Workshop Sessions**

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
SSS Session 2: Service Marketing and Management
Chair: Yang Li
Location: Karsiyaka 1 (3rd floor)

13:30-14:00 · *GARSS: A Generic Annotation and Recommendation Services System for Digital Repositories*
Xiaodong Huang, Yong Zhang, Chunxiao Xing

14:00-14:30 · *Material Hub: A Semantic Search Engine with Rule Reasoning*
Sen Ma, Wen Zhao, Shikun Zhang, Hang Zhang

14:30-15:00 · *Integrated QoS Utility-Based Model for Cloud Computing Service Provider Selection*
Maria Salama, Ahmed Shawish, Amir Zeid, Mohamed Kouta

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Shigeaki Tanimoto
Location: Karsiyaka 2 (3rd floor)

13:30-14:00 · *Flexible Access Control Framework Considering IdP-side's Authorization Policy in Roaming Environment*
Toshiki Watanabe, Shunichi Kinoshita, Junichi Yamato, Hideaki Goto, Hideaki Sone

14:00-14:30 · *Implementation and Evaluation of an OpenFlow-based Access Control System for Wireless LAN Roaming*
Shunichi Kinoshita, Toshiki Watanabe, Junichi Yamato, Hideaki Goto, Hideaki Sone

14:30-15:00 · *A Prototype of Network Failure Avoidance Functionality for SAGE Using OpenFlow*
Tomoya Furuichi, Susumu Date, Hiroaki Yamanaka, Kohei Ichikawa, Hirotake Abe

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
Chair: Nikolay Tcholtchev
Location: Karsiyaka 3 (3rd floor)

13:30-14:00 · *Automated Trust Estimation in Developing Open News Stories: Combining Memento & Provenance*
Erik Mannens, Sam Coppens, Ruben Verborgh, Laurence Hauttekeete, Davy Van Deursen, Rik Van de Walle

14:00-14:30 · *Privacy Preserving Data Publishing for Recommender System*
Xiaoqiang Chen, Vincent Huang

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 3
Chair: Xianping Tao
Location: Konak 1 (3rd floor)

CFSE 2012: The 4th IEEE International Workshop on Computer Forensics in Software Engineering
Chair: Sean Thorpe
Location: Konak 2

13:30-14:00   *Distribution-aware Mutation Analysis*
Chang-ai Sun, Guan Wang, Kai-Yuan Cai, Tsong Yueh Chen

14:00-14:30   *A Reputation System for Trustworthy QoS Information in Service-Based Systems*
Jun Lin, Changhai Jiang, Hai Hu, Kai-Yuan Cai, Stephen Yau, Dazhi Huang,

14:30-15:00   *Program Behavior Analysis and Control for Online IDE*
Ling Wu, Guangtai Liang, Qianxiang Wang

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 2: Emerging Techniques
Chair: Yousra Bendaly Hlaoui
Location: Bergama 1 (3rd floor)

13:30-14:00   *Software Piracy Forensics:: A Proposal for Incorporating Dead Codes and other Programming Blunders as Important Evidence in AFC Test*
Vinod Polpaya Bhattathiripad

14:00-14:30   *Development of InfoVis Software for Digital Forensics*
Grant Osborne, Benjamin Turnbull, Jill Slay

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Chair: Feng-Jiang Wang
Location: Bergama 2 (3rd floor)

13:30-14:00   *UML AD Refinement Patterns for Modeling Workflow Applications*
Ahlem Ben Younes, Leila Jemni Ben Ayed, Yousra Bendaly Hlaoui

14:00-14:30   *An Efficient IPTV Distribution Technique under NAT Environment*
Ming-Huang Chen, Yaw-Chung Chen, Wen-Kang Jia

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Session 3: RE for Non-functional Requirements
Chair: Lin Liu
Location: Bergama 3 (3rd floor)

13:30-14:00   *Performance Analysis of Reusable Components with Hybrid Modeling of Strategies and Processes*
Sheau Ling Tan, Lin Liu

14:00-14:30   *Translation Rules and a Supporting Tool for Model-based Reuse*
Junfeng Zhao, Jiantao Zhou

14:30-15:00   *Parallel Software Reuse Driven CPN Model Reduction and Analysis Approach*
Tao Sun, Xinming Ye, Hongli Yang, Jing Liu

SAPSE 2012: The 4th IEEE International Workshop on Security Aspects in Processes and Services Engineering
Chair: Stelvio Cimato
Location: Petek Boardroom (3rd floor)

13:30-13:50   *Mutual Refinement of Security Requirements and Architecture using Twin Peaks Model*
Takao Okubo, Haruhiko Kaiya, Nobukazu Yoshioka

13:50-14:10   *Automated Reasoning with Goal Tree Models for Software Quality Requirements*
Bo Wei, Zhi Jin, Didar Zowghi, Bin Yin

14:10-14:30   *Improving Quality Software Requirements Specifications using Spectrum Analysis*
Haruhiko Kaiya, Atsushi Ohnishi

14:30-14:50   *The Concepts and Ontology Of SiSL: A Situation-Centric Specification Language*
Haihua Xie, Carl K. Chang, Hua Ming, Kai-shin Lu

14:50-15:10   *A Functional Implementation Approach for Web Services-based Context-Aware Systems*
Jianchu Huang, Hongji Yang

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 3: Testing Mobile and Open Software
Chair: Marek Stochel
Location: Didim (3rd floor)

13:30-14:00   *Deriving Process-Related RBAC Models from Process Execution Histories*
Anne Baumgrass, Sigrid Schefer-Wenzl, Mark Strembeck

14:00-14:30   *Approximation Algorithms for Minimizing the Number of Roles and Administrative Assignments in RBAC*
Hejiao Huang, Feng Shang, Jiangtao Zhang

14:30-15:00   *Robust XML Watermarking Using Fuzzy Queries*
Romaric-Ange Tchokpon, Nadia Bennani, Ernesto Damiani

Model-based Conformance Testing of WS-BPEL Compositions
Atef Jmal Maâlej, Moez Krichen, Mohamed Jmaiel

A Conceptual Framework for Open Source Software Test Process
Tamer Abdou, Peter Grogono, Pankaj Kamthan

15:00-15:30   **Afternoon Break – Smyrna Auditorium (5th floor)**
15:30-17:00   **Workshop Sessions**

SSS 2012: The 5th IEEE International Workshop on Service Science and Systems
Session 3: Service Paradigms in Industry
Chair: Lin Liu
Location: Karsiyaka 1 (3rd floor)

15:30-16:00   *Service Level Management for Service Value Networks*
Frank Schulz, Wibke Michalk, Markus McCallister, Christof Momm, Simon Caton, Christian Haas, Daniel Rolli, Monika Tavas

16:00-16:20   *General Talk: Towards Cross-Domain Situation-Based Context Management and Highly Adaptive Pervasive Services*
Xiaodong Liu

16:20-16:40   *General Talk: Agent-Based Simulation and Its Applications to Service Management*
Yang Li

MidArch 2012: The 6th IEEE International Workshop on Middleware Architecture in the Internet
Chair: Toru Kobayashi
Location: Karsiyaka 2 (3rd floor)

15:30-16:00   *Group Management System for Federated Identities with Flow Control of Membership Information by Subjects*
Takeshi Nishimura, Motonori Nakamura, Makoto Otani, Kazutsuna Yamaji, Noboru Sonehara

16:00-16:30   *Analysis of Security of PKI Operation with Multiple CP/CPS Based on Level of Assurance*
Shigeaki Tanimoto, Shinichi Mizuhara, Msasahiko Yokoi, Hiroyuki Sato, Atsushi Kanai

METHOD 2012: The 1st IEEE International Workshop on Methods for Establishing Trust with Open Data
Chair: Edzard Höfig
Location: Karsiyaka 3 (3rd floor)

15:30-16:00   *Attack Vectors to Metering Data in Smart Grids under Security Constraints*
Florian Skopik, Zhendong Ma

16:00-16:30   *Protecting Resources in an Open and Trusted Peer-to-peer Network*
Jean-Francois Lalande, David Rodriguez

16:30-16:45   *Closing Remarks*
Edzard Höfig, Ina Schieferdecker

IWSC 2012: The 9th IEEE International Workshop on Software Cybernetics
Session 4
Chair: Feng-Jian Wang, National Chiao-Tung University, Taiwan
Location: Konak 1 (3rd floor)

Safe Regression Test Selection Based on Program Dependence Graphs
Jianchun Xing, Hongda Wang, Wei Song, Qiliang Yang
Panel: *Future Directions of Software Cybernetics*
Panelists: Tolka Ayva, Izmir Institute of Technology, Turkey
Kai-Yuan Cai, BUAA, China
Xianping Tao, Nanjing University, China

MVDA 2012: The 1st IEEE International Workshop on Modeling and Verifying Distributed Applications
Session 3: Formal Approaches
Chairs: Ahlem Ben Younes
Location: Bergama 1 (3rd floor)

15:30-16:00   *Automatic Generation of an Operational CSP-Z Specification from an Abstract TemporalZ Specification*
Thouraya Guoismi, Amira Regayeg, Ahmed Hadj Kacem
16:00-16:30   *A Semantics-Based Privacy-Aware Approach for Fragmenting Business Processes*
Mohamed-Anis Zemni, Nejib Ben-Hadj Alouane, Mohamed Moez Yeddes

QUORS 2012: The 6th IEEE International Workshop on Quality Oriented Reuse of Software
Session 4: Cloud Computing Services and QoS
Chair: Lin Liu
Location: Bergama 2 (3rd floor)

16:30-17:00   *SE-EQUAM – An Evolvable Quality Metamodel*
Aseel Hmood, Iman Keivanloo, Juergen Rilling

15:30-16:00   *A QoS Assurance Middleware Model for Enterprise Cloud Computing*
Shou-Yu Lee, Dongyang Tang, Tingchao Chen, William Cheng-Chung Chu
16:00-16:30   *Towards OWL 2 Natively Supported Fuzzy Cloud Ontology*
Daren Fang, Xiaodong Liu, Imed Romdhani, Huiqun Zhao

REFS 2012: The 6th IEEE International Workshop on Requirements Engineering for Services
Location: Bergama 3 (3rd floor)

Panel: *Requirements Engineering for Services Evolution*
Mediator: Lin Liu
Panelists:
Colette Rolland
Eric Yu
Jolita Ralyté
Zhi Jin
Willem-Jan van den Heuvel

STA 2012: The 4th IEEE International Workshop on Software Test Automation
Session 4: Testing Large Systems
Chair:Rob Hierons
Location: Didim (3rd floor)

Invited Talk: *Recent Advances in Test Automation*
Ina Schieferdecker
Mining Data Chain Graph for Fault Localization
Bo Yang, Ji Wu, Chao Liu
Effects of Class Imbalance in Test Suites: An Empirical Study of Spectrum-Based Fault Localization
Gong Cheng, Zheng Zheng, Li Wei, Hao Peng

Tuesday July 17: Main Conference

8:30-9:00   **Joint Opening Session - Grand Efes Ballroom (1st floor)**
Conference Welcome: Elisa Bertino, COMPSAC General Chair
Welcome Remarks: Mustafa Güden, President, Izmir Institute of Technology
Tayfun Acarer, President of Information Technologies and Communications Board of Turkey
Binali Yıldırım, Minister of Transport, Maritime Affairs, and Communication
Opening Remarks: John Walz, President, IEEE Computer Society
Kazuo Furukawa, President, Information Processing Society of Japan
COMPSAC Program Overview/Best Paper Awards
Xiaoying Bai, Atilla Elçi and Mohammad Zulkernine
SAINT Program Overview/Best Paper Awards
Sumi Helal, Kazutoshi Fujikawa, and Ying Cai

9:00-10:00   **Joint COMPSAC/SAINT Keynote**
George O. Strawn, Director, National Coordination Office/NITRD, OSTP, USA
Session Chair: Carl K. Chang
Trust and Confidence
Abstract: As IT becomes increasingly pervasive in human affairs, it is important that IT systems be worthy of trust and confidence. The U.S. Federal government includes an interagency research collaboration program called Networking and IT Research and Development (NITRD). NITRD has a major focus on interagency coordination for research in cybersecurity. In this talk, I will first make some personal observations on cybersecurity, then describe the cybersecurity research agenda recently proposed by the NITRD agencies, and conclude by relating a controversial proposal.

10:00-10:30   **Morning Break – Smyrna Auditorium (5th floor)**
10:30-12:00   **Parallel Sessions**

Software Life Cycle, Evolution and Maintenance I
Chair: Hong Zhu, Oxford Brookes University, UK
Location: Konak I/2 (3rd floor)

Effective Statistical Fault Localization Using Program Slices
Yan Lei, Xiaoguang Mao, Ziying Dai, Chengsong Wang
Recovering Traceability Links between Code and Documentation for Enterprise Project Artifacts
Shouichi Nagano, Yusuke Ichikawa, Toru Kobayashi
A Source Code Recommender System to Support Newcomers
Yuri Malheiros, Alan Moraes, Cleyton Trindade, Silvio Meira

Reliability, Metrics and Fault Tolerance I
Chair: Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China
Location: Bergama I (3rd floor)

Workload-Aware Online Anomaly Detection in Enterprise Applications with Local Outlier Factor
Tao Wang, Wenbo Zhang, Jun Wei, Hua Zhong
A Metrics-Based Data Mining Approach for Software Clone Detection
Salwa Abd-El-Hafiz
A Petri Nets-based Byzantine Fault Diagnosis Method for Service Composition
Guisheng Fan, Huiqun Yu, Liqiong Chen, Dongmei Liu

Software Testing I
Chair: Rajesh Subramanyan, Siemens Corporate Research, USA
Location: Bergama 2/3 (3rd floor)

Panel 1: Trustworthiness of Open Source, Open Data, Open Systems and Open Standards
Location: Didim (3rd floor)
Chair: Ina Schieferdecker, Fraunhofer FOKUS, Germany
Panelists:
Esteve Almirall – ESADE, Spain
Minghui Zhou – Peking University, China
Edzard Höfig – Free University Berlin, Germany

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

Software Life Cycle, Evolution and Maintenance 2
Chair: Xianping Tao
Location: Konak I/2 (3rd floor)

Integrating Software Product Lines: A Study of Reuse vs. Stability
Alessandro Gurgel, Francisco Dantas, Alessandro Garcia, Claudio Sant'Anna

Experiences of a Product Line Migration Project
Detlef Streitferdt, Arfan Mansoor

Kutulu: A Domain-specific Language for Feature-driven Product Derivation
Orçun Dayıbaş, Halit Oğuztüzün

Automatic Adaptation of Software Applications to Database Evolution by Graph Differencing and AOP-based Dynamic Patching
Yang Song, Xin Peng, Zhenchang Xing, Wenyun Zhao

Reliability, Metrics and Fault Tolerance 2
Chair: Ahmet Koltuksuz, Yasar University, Turkey
Location: Bergama I (3rd floor)

An Effective Defect Detection and Warning Prioritization Approach for Resource Leaks
Guangtai Liang, Qian Wu, Qianxiang Wang, Hong Mei

Evaluating Reliability-Testing Usage Models
Bo Wan, Gregor v Bochmann, Guy-Vincent Jourdan

Towards Online Localization and Recovery for Faulty Components in Component-Based Applications
Chao You, Minghui Zhou, Hongwu Lin, Zan Xiao, Hong Mei

Software Testing 2
Chair: Bengi Karacali, Avaya Labs, USA
Location: Bergama 2/3 (3rd floor)

CATest: A Test Automation Framework for Multi-Agent Systems
Shufeng Wang, Hong Zhu

Usefulness Evaluation of Simulation in Server System Testing
Jian Sun, Tomi Männistö

Towards Dynamic Random Testing for Web Services
Chang-Ai Sun, Guan Wang, Kai-Yuan Cai, Tsong Yueh Chen

How to Recommend Appropriate Developers for Bug Fixing
Tao Zhang, Byungjeong Lee

Software Architecture and Design I
Chair: Wenbo Zhang, Chinese Academy of Sciences, China
Location: Didim (3rd floor)

AdGraptive Random Test Case Generation for Combinatorial Testing
Rubing Huang, Xiaodong Xie, Tsong Yueh Chen, Yansheng Lu

Capacity Evaluation of Multi-Modal Network Notification Service
J. Jenny Li, Colin L. Mallows, Jim Landwehr

Preemptive Regression Test Scheduling Strategies: A New Testing Approach to Thriving on the Volatile Service Environments
Lijun Mei, Ke Zhai, Bo Jiang, W.K. Chan, T.H. Tse

Adaptive Exploration Architecture for Maintaining Human-Computer Trust
Florian Nothdurft, Gregor Bertrand, Helmut Lang, Wolfgang Minker

Quality-Driven Self-Adaptation: Bridging the Gap between Requirements and Runtime Architecture by Design Decision
Liwei Shen, Xin Peng, Wenyun Zhao

A Rapid Development Framework for Multilingual Spoken Dialogue Systems
Masahiro Araki, Daisuke Takegoshi

15:00-15:30 Afternoon Break – Smyrna Auditorium (5th floor)
15:30-17:00 Parallel Sessions

Software Life Cycle, Evolution and Maintenance 3
Chair: Xiadong Liu, Edinburgh Napier University, UK
Location: Konak I/2 (3rd floor)

ALTA: Automatic Load-time Adaption Technique for Refactoring-based Evolution of Software Component
Kai-Shin Lu, Carl K. Chang

An Initial Study on Refactoring Tactics
Hui Liu, Yuan Gao, Zhendong Niu

A Framework for Examining Topical Locality in Object-oriented Software
Nan Niu, Juha Savolainen, Tanmay Bhowmik, Anas Mahmoud, Sandeep Reddivari

Domain Independent Event Analysis for Log Data Reduction
Theodoros Kalamatianos, Kostas Kontogiannis, Peter Matthews

Security
Chair: Murat Kantarcioglu, University of Texas at Dallas, USA
Location: Bergama I (3rd floor)

Preventing Input Validation Vulnerabilities in Web Applications through Automated Type Analysis
Theodoor Scholte, William Robertson, Davide Balzarotti, Engin Kirda

Real-time Fast-flux Identification via Localized Spatial Geolocation Detection
Horng-Tzer Wang, Kuo-Ping Wu, Ching-Hao Mao, Hahn-Ming Lee

Panel 2: Software Testing, Software Quality and Trust in Software-Based Systems
Location: Didim (3rd floor)
Chair: Christof Budnik, Siemens, US
Panelists:
Tony Kobayashi, NTT, Japan
Robert Hierons, Brunel University, UK
Rajesh Subramanyan, Siemens Corporate Research, USA

Software Architecture and Design 2
Chair: Fenglian Wang, National Chiao-Tung University, Taiwan
Location: Bergama 2/3 (3rd floor)

An Approach for Detecting Inconsistencies between Behavioral Models of the Software Architecture and the Code
Selim Ciraci, Hasan Sozer, Bedir Tekinerdogan

Fine-grained Design Pattern Detection
Maurice Lebon, Vassilios Tzerpos

On the Proactive Design of Aspect-Oriented Product-Line Architectures: An Exploratory Study
William Oizumi, Antonio Contieri Junior, Guilherme Correia, Thelma Colanzi, Sandra Ferrari, Itana Gimenes, Edson Oliveira Junior, Alessandro Garcia, Paulo Cesar Masiero

Evening: COMPSAC/SAINT Conference Banquet (at Old Smyrna)

Wednesday July 18, 2012: Main Conference

8:30-10:00

Welcome Speech

Joint Keynote Address

Turhan Mentes, President, Informatics Association of Turkey

Ross Anderson, Professor, Cambridge, UK

Session Chair: Elisa Bertino

Cyber Security: Threats Real and Imagined

Abstract: In the 1980s and 1990s, the Internet was a benign place, so we invented scary monsters such as the Dolev-Yao opponent or the global passive adversary and figured out how to protect systems against them. From the late 1990s we started to see real adversaries, from spammers to carders to online state actors. By 2000 systems had become so large and complex that we needed to invent security economics to reason about them. But economic models alone are not enough; we also need to know what the bad guys are doing, how much they're making, and what it costs the rest of us. Much of what's written on this is exaggerated, as vendors, policemen and intelligence agencies all have an incentive to talk up the threats. I will discuss some analysis we did for ENISA and more recently at the suggestion of the UK Ministry of Defence in which we try to get a more defensible set of numbers, as well as a better handle on what might go wrong in the future. The data are beginning to suggest that we are extremely inefficient at fighting cybercrime; we might place less emphasis on protection (firewalls, antivirus etc) and more on response – on hunting down the bad guys and putting them in jail.

10:00-10:30   **Morning Break: Smyrna Auditorium (5th floor)**
Poster session in Smyrna Auditorium will run 10:00-13:30

10:30-12:00   **Parallel Sessions**

Requirements Engineering
Chair: Lin Liu, Tsinghua University, China
Location: Konak I/2 (3rd floor)

Development of Situational Requirements Engineering Processes: A Process Factory Approach
Omid Jafarinezhad, Raman Ramsin

Software Product Line Engineering for Developing Self-adaptive Systems: Towards the Domain Requirements
Liwei Shen, Xin Peng, Wenyun Zhao

Requirements Understanding: A Challenge in Global Software Development, Industrial Surveys in Kingdom of Saudi Arabia
Mohammed A. Alnuem, Arshad Ahmad, Hashim Khan

Panel 3: Creative Computing: Reconciling Objective Precision with Subjective Ambiguity
Location: Bergama I (3rd floor)
Chair: Hongji Yang, De Montfort University, UK

Panelists:

Ruqian Lu - Academy of Mathematics and Systems Science, China

Andrew Hugill - De Montfort University, UK

Songmao Zhang - Chinese Academy of Sciences, China

Hong Zhu - Oxford Brooks University, UK

Animated Computing Changes the Way and Style of Computer Application

Challenges for Creative Computing

Using the Semantic Web Technologies to Support Automatic Animation

Can Software Design Benefit from Creative Computing?

Formal Methods
Chair: Dianxiang Xu, Dakota State University, USA
Location:Bergama 2/3 (3rd floor)

Fast Abstract
Note time: 10:15-12:30
Chair: Hiroyuki Sato, Tokyo University, Japan
Location: Didim (3rd floor)

XMLSnippet: A Coding Assistant for XML Configuration Snippet Recommendation
Sheng Huang, Yanghua Xiao, Yiqi Lu, Wei Wang, Yu Wang

Model-based Static Source Code Analysis of Java Programs with Applications to Android Security
Zheng Lu, Supratik Mukhopadhya

A Change Proposal Driven Approach for Changeability Assessment Using FCA-based Impact Analysis
Xiaobing Sun, Bixin Li, Qiandong Zhang

A Methodology for Building Effective Test Models with Function Nets
Dianxiang Xu, William Chu

Paxos-Based Memory Data Replication in Stock Trading System
Xiaodong Huang, Yong Zhang, Chunxiao Xing, Yinfei Huang, Jianfeng Wu, Shuo Bai

Using Program Dynamic Analysis for Weak Algorithm Detection
Zakarya Alzamil

Requirement Patterns for Multicore Systems
Arfan Mansoor, Detlef Streitferdt

Performance Evaluations of Vector-raster Satellite Image Transfers through Web Services
Süleyman Eken, Ahmet Sayar

User Profiling for Policy Management in Social Communities
Okan Bursa, Özgü Can, Murat Osman Ünalir

On Capturing Effects of Modifications as Data Dependencies
Hasan Ural, Husnu Yenigun

Accelerated Deterministic Multithreading for Multichannel Video Decoder
Bahbibi Rahmatullah, Aris T. Papageorghiou, J. Alison Noble

Image Analysis Using Machine Learning: Anatomical Landmarks Detection in Fetal Ultra sound Images
Youngsam Shin, Minyoung Son, Seungwong Lee, Shihwa Lee

Test Case Generation by Simulating Requirements Analysis Model
Ryo Shikimi, Shinpei Ogata, Saeko Matsuura

Customer Churn Prediction for Telecom Services
Utku Yabas, Hakki Candan Cankaya, Turker Ince

A Cluster-Based Core Protection Technique for Networks-on-Chip
Khalid Latif, Amir-Mohammad Rahmani, Pasi Liljeberg, Hannu Tenhunen, Tiberiu Seceleanu

HCI Knowledge in Software Engineering Practices for Designing Interactive Maintenance Assistance Systems
Samir Benbelkacem, N. Zenati-Henda, M. Belhocine, A. Bellarbi, M. Tadjine

An Intermediate Language for Semantic Exceptions in Context-Aware Systems
Eun-Sun Cho, Sumi Helal

Doppel-Code: A Clone Visualization Tool for Prioritizing Global and Local Clone Impacts
Juergen Rilling

Poster Session (10:00-13:30)
Chair: Tolga Ayav, Izmir Institute of Technology, Turkey
Location: Smyrna Auditorium

WorldTour: Towards an Adaptive Software to Support Children with Autism in Tour Planning
Felipe Rodrigues Monteiro Sousa, Thais Helena Chaves de Castro

Implementation and Evaluation of Commodity Hardware and Software in an Open World Spoken Dialog Framework

Hareendra Manuru, Rajagopal Vasudevan, Ashok Sasidharan, Thomas Lynch, Seth Darbyshire, Sayajeet Raje, Rajiv Ramnath, Jayashree Ramanathan
Conformance Testing of WS-BPEL Compositions Under Various Load Conditions
Atef Jmal Maâlej, Moez Krichen, Mohamed Jmaiel
Research on requirements engineering for avionics (only poster presentation)
Göran Bertheau

12:00-13:30   Break for Lunch - Smyrna Auditorium
COMPSAC/SAINT Joint planning Meeting
Location: Didim (3rd floor) All invited, please bring your lunch!

13:30-15:00:   COMPSAC/SAINT Joint Panel on Social Computing
Chair: Amr Elkadi and Salwa Abd-El-Hafiz
Proposed by Michiharu Takemoto
Location: Grand Efes Ballroom

16:00-20:30: COMPSAC/SAINT Group Outing to Ephesus

Thursday July 19, 2012: Main Conference

8:30-10:00

Grand Efes Ballroom: Joint COMPSAC/SAINT Panel: Challenges Toward the Global Adoption of Cloud Computing
Chair: Vladimir Getov, University of Westminster, UK
Panelists:
C.C. William Chu, Tunghai University, Taiwan
William Claycomb, Carnegie Mellon University, USA
George Strawn, Director of the National Coordination Office (NCO), USA
Stephen Yau, Arizona State University, USA

10:00-10:30   Morning Break: Smyrna Auditorium (5th floor)
10:30-12:00   Parallel Sessions

Cloud Computing I
Chair: William R. Claycomb, Carnegie Mellon University, USA
Location: Konak I/2 (3rd floor)

PaaS-Oriented Performance Modeling for Cloud Computing
Wenbo Zhang, Xiang Huang, Ningjiang Chen, Wei Wang, Hua Zhong
Event Indexing and Searching for High Volumes of Event Streams in the Cloud
Miao Wang, Viliam Holub, John Murphy, Patrick O'Sullivan
Demystifying Cloud Benchmarking Paradigm: An In-depth View
Venugopalan Vedam, Jayanti Vemulapati

Web-Based System
Chair: Weider Yu, San Jose State University, USA
Location: Bergama I (3rd floor)

An Evaluation Model for Dependability of Internet-scale Software on Basis of Bayesian Networks
Guannan Si, Jufeng Yang, Jing Xu, Shuo Wen, Wei Tian
Deriving Specifications for Composite Web Services
George Baryannis, Manuel Carro, Dimitris Plexousakis

Applications I
Chair: Ying Cai, Iowa State University, USA
Location: Bergama 2/3 (3rd floor)

Americans With Disabilities Act - Compliance Assessment Toolkit on Smartphone
Mohammad Tanviruzzaman, Rizwana Rizia, Sheikh Iqbal Ahamed, Roger Smith
Automatic Data Clustering Analysis of Arbitrary Shape with K-means and Enhanced Ant-based Template Mechanism
Wei Zhang, Hen-I Yang, Hsin-yi Jiang, Carl K. Chang
Applying Knowledge Elicitation to Improve Web Effort Estimation: A Case Study
Emilia Mendes, Manar AbuTalib, Steve Counsell

Industry Track
Chair: M. Erdal Balaban, Isik University, Turkey
Location: Smyrna Auditorium 2 (5th floor)

Architecturing Business Intelligence for SMEs
Ayse Eser Baransel, Cesur Baransel
Agile Adoption Story from NHN
Eunha Kim, Seokmoon Ryoo
Educational Activity Finder for Children with Pervasive Developmental Disorder through a

Panel 4: Cross-sectoral Challenging Objectives for Achieving Trustworthy Software
Location: Didim (3rd floor)
Chair: Barış Sarıalioğlu, Yapı Kredi Bank, Turkey
Panelists:
Ahmet Duran - Huawei Technologies, Turkey
Murat Lostar - ISACA, Turkey
Koray Yitmen - Turkish Testing Board, Turkey
Dr. Masood Mortazavi - Yahoo, USA

Doctoral Symposium: Presentation Session
Location: Karşıyaka 3
Understanding Socio-technical Factors Influencing Testers in Software Development Organizations
Anca Deak

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

Doctoral Symposium: Poster Session (runs 13:30-15:30)
Location: Smyrna Auditorium 1
Understanding Socio-technical Factors Influencing Testers in Software Development Organizations
Anca Deak

Cloud Computing Security Tutorial
With William R. Claycomb, Carnegie Mellon University, USA
Location: Smyrna Auditorium (5th floor)

Cloud Computing 2
Chair: William Chu, Tunghai University, Taiwan
Location: Konak I (3rd floor)

CASViD: Application Level Monitoring for SLA Violation Detection in Clouds
Vincent C. Emeakaroha, Tiago C. Ferreto, Marco A. S. Netto, Ivona Brandic, Cesar A. F. De Rose
P-Tracer: Path-based Performance Profiling in Cloud Computing Systems
Haibo Mi, Huaimin Wang, Hua Cai, Yangfan Zhou, Michael Lyu, Zhenbang Chen
A Solution For Privacy Protection In MapReduce
Quang Tran, Hiroyuki Sato

Smart and Semantic Computing
Chair: Juergen Rilling, Concordia University, Canada
Location: Bergama I (3rd floor)

Semantic Search System
Duygu Çelik, Atilla Elçi, Eray Elverici, Necati İnan
A Scalable Physical Memory Allocation Scheme for L4 Microkernel
Chen Tian, Daniel Waddington, Jilong Kuang
Model Driven Software Development for Military Command and Control Systems
Burak Çiflikli, Onur Özcan, Ahmet Bora Uysal

Applications 2
Chair: Sheikh Iqbal Ahamed, Marquette University, USA
Location: Bergama 2/3 (3rd floor)

Using Semantic Web Technologies for RBAC in Project Oriented Environments
Satyajeet Raje, Chowdary Davuluri, Micheal Freitas, Rajiv Ramnath, Jay Ramanathan
The RDFa Content Editor – From WYSIWYG to WYSIWYM
Ali Khalili, Sören Auer
Semantic Web – The Missing Link in Global Source Code Analysis?
Iman Keivanloo, Juergen Rilling, Philippe Charland
Enriching the DBpedia Ontology with Shared Conceptualizations from Folksonomies
Sana Hamdi, Alda Gancarski, Amel Bouzeghoub, Sadok Ben Yahia
Novel Energy Saving Opportunities in Smart Grids using a Secure Social Networking Layer
Florian Skopik, Christian Wagner
Privacy-Preserving Data Publishing for Free Text Chinese Electronic Medical Records
Lei Chen, Ji-Jiang Yang, Qing Wang
Disease-disease relationships for rheumatic diseases
Andreas Holzinger, Klaus-Martin Simonic, Pinar Yildirim
A privacy-preserving cloud computing system for creating participatory noise maps
George Drosatos, Pavlos S. Efraimidis, Ioannis N. Athanasiadis, Ellie D'Hondt, Matthias Stevens

HCI and Usability
Chair: Masahiro Araki, Kyoto Institute of Technology, Japan
Location: Didim (3rd floor)

Influence of Anchor Management on Anchored Navigation in Mobile Maps
Rodrigo Maués, Eduardo Nakamura, Simone D.J. Barbosa
Study of Fractal Color Image Compression using YUV components
Eman Al-Hilo, Loay Goerge
STREAM-ADD: Supporting the Documentation of Architectural Design Decisions in an Architecture Derivation Process
Diego Dermeval, João Pimentel, Carla Silva, Jaelson Castro, Emanuel Santos, Gabriela Guedes, Márcia Lucena, Anthony Finkelstein

15:00-15:30   Afternoon Break: Smyrna Auditorium
15:30-17:00   Parallel Sessions

Panel 5: Cloud Computing for Developing Countries
Location: Didim (3rd floor)
Chair: Tuglkan Tuglular, Izmir Institute of Technology, Turkey
Panelists:
Tugkan Tuglular, Izmir Institute of Technology, Turkey
Rajesh Subramanyan – Siemens Corporate Research, US
Kivanc Uslu – IBM Turkey, Turkey
Yong Zhang, Tsinghua University, China

Mobile & Pervasive Computing
Chair: Sumi Helal, Univ of Florida, USA
Location: Bergama I (3rd floor)

Simulating Power Consumption of Location Tracking Algorithms to Improve Energy-efficiency of Smartphones
Ulrich Bareth
KnockAround: Location Based Service via Social Knowledge
Rizwana Rizia, Mohammad Tanviruzzaman, Sheikh Iqbal Ahamed
ConsView: Towards Application-specific Consistent Context Views
Haibin Yang, Chang Xu, Xiaoxing Ma, Linghao Zhang, Chun Cao, Jian Lu

Applications 3 (Education)
Chair: W.K. Chan, City University of Hongkong, Hong Kong
Location: Bergama 2/3 (3rd floor)

An Agent-based Application to Enable Deregulated Energy Markets
Nicola Capodieci, Andrea Pagani, Giacomo Cabri, Marco Aiello

Teaching Software Engineering in Developing Countries: A Position Paper
Rasha Osman

Leveraging 24/7 Availability and Performance for Distributed Real-time Data Warehouses
Ricardo Jorge Santos, Jorge Bernardino, Marco Vieira

Real-Time and Embedded System
Chair: Tiberiu Seceleanu, ABB Corporate Research, Sweden
Co-chair: Khalid Latif, University of Turku, Finland
Location: Konak I (3rd floor)

Specification Mutation Analysis for Validating Timed Testing Approaches Based on Timed Automata
Mohammad Aboutrab, Steve Counsell, Robert Hierons

Automatic RT-Java code generation from AADL models for ARINC653-based avionics software
Ying Wang, Dianfu Ma, Yongwang Zhao, Lu Zou, Xianqi Zhao

Scheduling and analysis of real-time software families
Hamideh Sabouri, Mohammad Mahdi Jaghoori, Frank de boer, Ramtin Khosravi

Workshop Sessions: Friday July 20

IESD 2012: The 4th IEEE International Workshop on Industrial Experience in Embedded Systems Design
TIP 2012: The 1st IEEE International Workshop on Tools in Embedded Systems Design Process
Chair: Detlef Streitferdt
Location: Konak 1 (3rd floor)

10:00-10:30 *Load Balancing for Cross Layer Communication*
John F. Schommer, Dominik Franke, Tim Lange, Stefan Kowalewski

10:30-11:00 *Development of a Mobile Platform to Support Building Maintenance Engineering*
Paul Stack

11:00-11:30 *An Estimation Model for the Savings Achievable by Tool Chains*
Matthias Biehl, Martin Törngren

CORCS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems
Chair: Tiziana Margaria
Location: Konak 2

10:00-10:30 *Performance Awareness in Component Systems: Vision Paper*
Lubomir Bulej, Tomas Bures, Vojtech Horky, Jaroslav Keznikl, Petr Tuma

10:30-11:00 *Understanding the Role of Transmission Power in Component-Based Architectures for Adaptive WSN*
Guillermo Rodriguez-Navas, Miquel A. Ribot, Bartomeu Alorda

11:00-11:30 *Tool-supported Methodology for Component-based Design of Wireless Sensor Network Applications*
Steffen Peter, Peter Langendoerfer

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Lorenzo Martino
Location: Bergama 1 (3rd floor)

Branch Obfuscation using Code Mobility and Signals
Zhi Wang, Chunfu Jia, Min Liu, Xiaoxu Yu

Detection of Buffer Overflow Vulnerabilities in C/C++ with Pattern based Limited Symbolic Evaluation
Sun Ding, Hee Beng Kuan Tan, Kaiping Liu, Hong Yu Zhang, Chandramohan Mahinthan

Towards a Secure Software Development Lifecycle with SQUARE+R
Weider Yu, Kyle Le

ESAS 2012: The 7th IEEE International Workshop on Engineering Semantic Agent Systems
Chair: R. Cenk Erdur
Location: Bergama 2 (3rd floor)

Conditional Ontology Mapping
Islam Elgedawy

Integration of 3D Trajectory Maps into a Local Distribution Map of Radiation Dose Using Unmanned Aerial Vehicle
Katsunori Oyama, Hiroyuki Wakabayashi, Atsushi Takeuchi, Naoki Ishitsuka

A Load Balancing Scheme for Distributed Simulation based on Multi-Agent System
Young Joon Lee, Geon Yong Park, Ho Kuen Song, Hee Yong Youn

The Semantics of the Interaction between Agents and Web Services on the Semantic Web
Sinem Getir, Moharram Challenger, Sebla Demirkol, Geylani Kardas

12:00-13:30 **Lunch - Smyrna Auditorium**
13:30-15:00 **Workshop Sessions**

IEESD 2012: The 4th IEEE International Workshop on Industrial Experience in Embedded Systems Design
TIP 2012: The 1st IEEE International Workshop on Tools in Embedded Systems Design Process
Chair: Tiberiu Seceleanu
Location: Konak 1 (3rd floor)

13:30-14:00	*GcLite: An Expert Tool for Analyzing Garbage Collection Behavior*
	Vasileios Angelopoulos, Trevor Parsons, John Murphy, Patrick O'Sullivan
14:00-14:30	*Integration and Analysis of Design Artefacts in Embedded Software Development*
	Daniel Merschen, Julian Pott, Stefan Kowalewski
14:30-15:00	*Product Line Variability Model Construction based on Model Difference*
	Kunming Nie

CORCS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems
Chair: Tiziana Margaria
Location: Konak 2 (3rd floor)

13:30-14:00	*Extending EAST-ADL for Modeling and Analysis of System's Resource-Usage*
	Raluca Marinescu, Eduard Paul Enoiu
14:00-14:30	*Modelling the design for an SOA System to Control a Small Scale Energy Zone*
	Maria Anjum, David Budgen
14:30-15:00	*Rule Based Axiomatic Design Theory Guidance for Software Development*
	Cengiz Togay, Emre Selman Caniaz, Ali Hikmet Dogru

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Chunfu Jia
Location: Bergama 1 (3rd floor)

Internet-Based Evaluation and Prediction of Web Services Trustworthiness
Meng Li, Zhebang Hua, Junfeng Zhao, Bing Xie
On Security Analysis of PHP Web Applications
David Hauzar, Jan Kofroň
Measuring the Adequacy of Software Security Requirements Engineering
Nancy Mead

ESAS 2012: The 7th IEEE International Workshop on Engineering Semantic Agent Systems
Chair: Behnam Rahmana
Location: Bergama 2 (3rd floor)

Integrating Linked Data Space with Agents Using the Environment Abstraction
Rıza Cenk Erdur, Oğuz Dikenelli, Oylum Alatlı, Erdem Eser Ekinci, Ziya Akar
An Image Processing Approach to Solve Labyrinth Discovery Robotics Problem
Behnam Rahnama, Atilla Elçi, Shadi Metani
Development of Semantic Model and Information Explorçation System for TV Media
Duygu Celik, Atilla Elçi, Esra Calik, Ayman Ahmad Khalil

15:00-15:30 Afternoon Break

STPSA 2012: The 7th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Chair: Kaiping Liu
Location: Bergama 1 (3rd floor)

Attack Model Based Penetration Test for SQL Injection Vulnerability
Wei Tian, Ju-Feng Yang, Jing Xu, Guan-Nan Si
An Efficient Graph Codec System for Software Watermarking
Maria Chroni, Stavros Nikolopoulos
A Certificate Based Context Aware Access Control Model for Smart Mobile Devices in Ubiquitous Computing Environments
Davut Cavdar, Ahmet Yortanli, Pekin Erhan Eren, Altan Kocyigit

---

COMPSAC 2012 Organizing Committee

Chair of the Standing Committee
Carl. K. Chang, Iowa State University, USA
General Chairs
Fevzi Belli, University of Paderborn, Germany
Elisa Bertino, Purdue University, USA
Program Chairs
Xiaoying Bai, Tsinghua University, China
Atilla Elci, Süleyman Demirel University, Turkey
Mohammad Zulkernine, Queen's University, Canada
Workshops Chairs
Cristina Seceleanu, Malardalen University, Sweden
Qianxiang Wang, Peking University, China
Panel Chairs
Ina Schieferdecker, Technische Universität Berlin/Fraunhofer Inst., Germany
Husnu Yenigun, Sabanci University, Turkey
Finance Chair
Simanta Mitra, Iowa State University, USA
Proceedings Chairs
Mutlu Beyazıt, University of Paderborn, Germany
Haihua Xie, Iowa State University, USA
Doctoral Symposium Chairs
Ebru Celikel Cankaya, University of Texas at Dallas, USA
Ali Dogru, Middle East Technical University, Turkey
Posters Session Chairs
Michael Linschulte, University of Paderborn, Germany
Alberto Trombetta, University of Insubria, Italy
Fast Abstracts Session Chairs
Ali Inan, Isik University, Turkey
Peter Liggesmeyer, Fraunhofer IESE, Germany
Organizing Chairs
Tugkan Tuglular, İzmir Institute of Technology, Turkey
Laurel Tweed, Iowa State University, USA
Registration Chair
Liping Wu, Iowa State University, USA
Web Chair
Liyuan Xiao, Iowa State University, USA
Publicity Chairs
Zhenyu Chen, Nanjing University, China
Wei Jiang, Missouri University of Science and Technology, USA
Mohamed Jemni, Higher School of Sciences and Technologies of Tunis, Tunisia
Andrej Pietschker
Seref Sagiroglu, Gazi University, Turkey
Anestis Toptsis, York University, Canada
Server/Systems Support Chair
Barry Britt, Iowa State University, USA
Industry Program Chairs
M. Erdal Balaban, Istanbul University, Turkey
Christof Budnik, Siemens Corporate Research, USA

COMPSAC 2012 Track Chairs

Software Life Cycle, Evolution, and Maintenance Track
Volker Gruhn, Univ. Duisburg-Essen, Germany
Yasuhiro Sugiyama, Nihon University, Japan

Requirements Engineering Track
Lin Liu, Tsinghua University, China
Juha Savolainen, Danfoss, Finland

Formal Methods Track
Michele Bugliesi, University Ca' Foscari, Italy
Dianxiang Xu, Dakota State University, USA

Software Architecture and Design Track
Ivica Crnkovic, Malardalen University, Sweden
Dorina Petriu, Carleton University, Canada

Software Testing Track
Rajesh Subramanyan, Siemens, USA
T.H. Tse, The University of Hong Kong, Hong Kong

Reliability, Metrics, and Fault Tolerance Track
Tadashi Dohi, Hiroshima University, Japan
Katerina Goseva-Popstojanova, West Virginia University

Security Track
Sheikh Iqbal Ahamed, Marquette University, USA
Murat Kantarcioglu, University of Texas at Dallas, USA

HCI and Usability Track
Masahiro Araki, Kyoto Institute of Technology, Japan
Ramon Lopez-Cozar Delgado, Universidad de Granada, Spain

Real-time and Embedded Systems Track
T. John Koo, Chinese Academy of Sciences, China
Tiberiu Seceleanu, ABB Corporate Research, Sweden

Mobile & Pervasive Computing Track
Boualem Benatallah, The University of New South Wales, Sydney, Australia
Zhen Liu, Nokia Research Lab, China

Smart Computing Track
Jinjun Chen, University of Technology, Sydney, Australia
Achilles Kameas, Hellenic Open University, Greece

Web Semantics Track
Jeff Z. Pan, University of Aberdeen, UK
Juergen Rilling, Concordia University, Canada

Web Services and Systems Track
Paolo Bellavista, University of Bologna, Italy
Kenji Takahashi, NTT Multimedia Communications Lab, USA

Cloud Computing Track
William R. Claycomb, Carnegie Mellon University, USA
William Chu, Tunghai University, Taiwan

Applications Track
Leong Hong-va, Hong Kong Polytechnic University, China
Sahra Sedigh, Missouri University of Science and Technology, USA

Education and Learning Track
James Cross, Auburn University, USA
Timothy Shih, National Central University, Taiwan

COMPSAC 2012 Program Committee

Gail-Joon Ahn, Arizona State University, USA
Mehmet Aksit, Twente University, Nederlands
Jalal Al-Muhtadi, King Saud University, Saudi Arabia
Jan Alexandersson, DFKI GmbH, Germany
Mikio Aoyama, Nanzan University, Japan
Tolga Ayav, Izmir Institute of Technology, Turkey
Doo-Hwan Bae, KAIST, Korea
Tulin Berber-Atnaca, TELECOM SudParis, France
Maarten Boasson, University of Amsterdam, The Netherlands
Ivona Brandic, Vienna University of Technology/Austria
Dennis Brylow, Marquette University, USA
Christof Budnik, Siemens, USA
Feza Buzluca, Istanbul Technical University, Turkey
Kai-Yuan Cai, Beijing University of Aeronautics and Astronautics, China
Roy Campbell, University of Illinois at Urbana-Champaign, USA
Joao W. Cangussu, Microsoft, USA
Junwei Cao, Tsinghua University, China
Zoraida Callejas Carrión, University of Granada, Spain
Cagatay Catal Istanbul Kultur University, Turkey
WK Chan, City University of Hongkong, Hong Kong
Tsong Y. Chen, Swinburne University of Technology, Australia
Y. C. Chen, National Chiao Tung University, Taiwan
Shing-Chi Cheung, Hong Kong University of Sci. and Tech., Hong Kong
Horng-Lung Chung, Carleton University, Canada
Peter J. Clarke, Florida International University, USA
Alfredo Cuzzocrea, ICAR/DEIS, University of Calabria, Italy
Gokhan Dalkilic, Dokuz Eylul University, Izmir, Turkey
Onur Demirors, Institute of Informatics, METU, Turkey
Oguz Dikenelli, Agean University, Izmir, Turkey
Tharam Dillon, Curtin University, Australia
Jose Fortes, University of Florida, USA
Song Fu, University of North Texas, USA
Kazutoshi Fujikawa, NAIST, Japan
Vladimir Getov, University of Westminster, London, UK
Michael Grottke, University of Erlangen-Nuremberg, Germany
Haluk Gumuskaya, Gediz University, Izmir, Turkey
Munawar Hafiz, Auburn University, USA
Ragib Hasan, University of Alabama at Birmingham, USA
Chunming Hu, Beijing Univ. Aeronautics & Astronautics, China
Gang Huang, Peking University, China
Zhi Jin, Peking University, China
James Joshi, University of Pittsburgh, USA
Dawn Jutla, Saint Mary's University, Canada
Oya Kalipsiz, Yildiz Teknik Universitesi, Turkey
Umit Karakas, Istanbul Kultur Universitesi, Turkey
Ahmet Faik Kasli, Izmir University, Turkey
Ron Kenett, KPA Ltd, Israel and Univ. of Torino, Italy
Bhumip Khasnabish, Standards Division of ZTE, USA
Anatoly Khomonenko, Petersburg State Transport University, Russia
Dae-Kyoo Kim, Oakland University, USA
In-Young Ko, Korea Advanced Institute of Science and Technology, Korea
Ahmet Koltuksuz, Yasar University, Turkey
Kostas Kontogiannis, National Technical University of Athens, Greece
Axel Kuepper, Deutsche Telekom, Germany
Dave Kung, University of Texas at Arlington, USA
H. M. Lee, National Taiwan Univ. of S&T, Taiwan
Ville Leppanen, UTU, Finland
Jenny Li, Avaya Labs, USA
Johan Lilius, Abo Akademi University, Finland

Frank Liu, Missouri University of S&T, USA
Jigang Liu, Metropolitan State University, USA
Pangfeng Liu, National Taiwan University, Taiwan
Xiadong Liu, Edinburgh Napier University, UK
Yang Liu, National Univ. of Singapore, Singapore
Yan Liu, Pacific Northwest National Laboratory, USA
Jian Lu, Nanjing University, China
Hanan Lutfiyya, University of Western Ontario, Canada
Praveen Madiraju, Marquette University, USA
Aditya Mathur, Purdue University, USA
Bruce McMillin, Missouri University of S&T, USA
Nancy Mead, Carnegie Mellon University, USA
Hong Mei, Peking University, China
Jose Miguel-Alonso, The University of the Basque Country, Spain
Simanta Mitra, Iowa State University, USA
Supratik Mukhopadhyay, LSU, USA
Kazuyoshi Murata, Kyoto Institute of Technology, Japan
Motonori Nakamura, NII, Japan
Hiroyuki Ohsaki, Osaka University, Japan
Mehmet Orgun, Macquarie University, Australia
Paul Pettersson, Mälardalen University, Sweden
Hiroyuki Sato, Tokyo University, Japan
Ina Schieferdecker, Fraunhofer FOKUS, Germany
Martina Schollmeyer, BMW Munich, Germany
Cristina Serban, AT&T, USA
Dongwan Shin, New Mexico Tech, USA
Pradip Srimani, Clemson University, USA
Neeraj Suri, TU Darmstadt, Germany
Hiroki Takakura, Nagoya University, Japan
Michiharu Takemoto, NTT Labs, Japan
Bedir Tekinerdogan, Bilkent Univ., Turkey
Ankur Teredesai, University of Washington, USA
Wolfgang Theilmann, SAP Research, Germany
Scott Tilley, Florida Institute of Technology, USA
Nakife Yasemin Topaloglu, Agean University, Izmir, Turkey
Wei-Tek Tsai, Arizona State University, USA
Turhan Tunali, Izmir University of Economics, Turkey
Feng-Jian Wang, National Chiao-Tung University, Taiwan
Jun Wei, Chinese Academy of Sciences, China
Chunxiao Xing, Tsinghua University, China
C. T. Yang, Tunghai University, Taiwan
Hongji Yang, De Montfort University, UK
Adnan Yazici, Middle East Technical University, Turkey
I-Ling Yen, University of Texas at Dallas, USA
Guray Yilmaz, Air Force Academy, Turkey
Eric Yu, University of Toronto, Canada
Weider Yu, San Jose State University, USA
Y. T. Yu, City University of Hong Kong, Hong Kong
Chuan Yue, Univ. of Colorado at Colorado Springs, USA
Jian Zhang, Chinese Academy of Sciences, China
Wenbo Zhang, Chinese Academy of Sciences, China
Zhenyu Zhang, Chinese Academy of Sciences, China
Hong Zhu, Oxford Brookes University, UK
Daniel M. Zimmerman, University of Washington, USA

COMPSAC/SAINT 2012 Sponsors & Supporters

IEEE Computer Society

IEEE and the IEEE Computer Society are the sole sponsors of COMPSAC.

PLATINUM SUPPORTER

İZMİR CHAMBER OF COMMERCE

The **İzmir Chamber of Commerce** delivers services that meet the needs and expectations of its members and to contribute to the development of commercial and economic life of Turkey. With its Pre-Republic history and more than 70.000 members and about 200-personnel İzmir Chamber of Commerce is the second biggest and most institutionalized chamber in Turkey. **www.izto.org.tr/IZTO/IN**

PLATINUM SUPPORTER

İZMİR BÜYÜKŞEHİR BELEDİYESİ

Metropolitan Municipality and affiliated institutions and companies implement master plans approved and decisions taken by Metropolitan Municipality Council. One of those is to support major conferences that will help to transform İzmir into a Brand City. As sponsoring COMPSAC, İzmir Metropolitan Municipality will host of the "European Healthy Cities" Conference in 2013 in İzmir. **www.izmir.bel.tr**

BRONZE SUPPORTER

IBM began operating in Turkey in the 1930s and has several locations in the country, including in the capital, Ankara, and the largest city, Istanbul, which is the third largest metropolitan city proper in Europe and the only metropolis in the world that is situated on two continents -- Asia and Europe. **www.ibm.com/planetwide/tr**

BRONZE SUPPORTER

STM is a Defense, Energy, Education, Health, Transportation and Homeland Security consultancy services, technical support and a service company that produces technology-focused solutions. **www.stm.com.tr**

BRONZE SUPPORTER

CARDTEK has a number of companies in its group that cater to the intense R&D and innovation needs of the Turkish banking payment systems. Companies include SmartSoft, CordisNetwork, CredoWork, and Phaymobile. **www.cardtek.com**

SUPPORTER

The Scientific and Technological Research Council of Turkey (TÜBİTAK) is the leading agency for management, funding and conduct of research in Turkey. It was established in 1963 with a mission to advance science and technology, conduct research and support Turkish researchers. The Council is an autonomous institution and is governed by a Scientific Board whose members are selected from prominent scholars from universities, industry and research institutions. **www.tubitak.gov.tr**
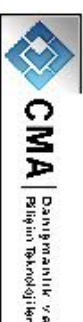
SUPPORTER

Netsis was founded in 1991 in İzmir to develop technological solutions for companies to increase their competitiveness. Netsis provides advanced R&D in Turkey as well as Azerbaijan, Belarus, Iran, Ukraine, Egypt, Uzbekistan, Russia, and the Sudan. **www.netsis.com.tr**

SUPPORTER

iDivino was established in 2011 in İzmir, to advance R & D know-how and experience in the private sector, keeping in the forefront of R & D activities aimed to produce innovative and accurate scale projects. Driven by market needs and technological innovations, iDivino aims to provide services to meet the needs for innovation-based solutions for small/medium enterprises for Information Technology. **www.facebook.com/idivy**

SUPPORTER

CMA Consulting, since 2006: Enterprise Resource Planning, Application Development, System Integration and Business Intelligence with SAP products in a consulting firm providing consulting and software services. **www.cma.com.tr/**

SUPPORTER

Softin is engaged in information technology and offers comprehensive, proprietary IT solutions for health and education sectors. **www.softin.com.tr**

ORGANIZER

Iowa State is an international, prestigious university with a friendly welcoming personality. More than 28,000 students choose from 100 majors, study with world-class scholars and hone their leadership skills in more than 800 student organizations. Iowa State offers a great environment where students can enjoy reaching their potential and discovering their passions. It's a culturally diverse student body with students from all 50 states and more than 110 countries. **www.iastate.edu**

ORGANIZER

İzmir Institute of Technology is one of the state universities in Turkey and one that was established in 1992 with a view to offering a high level of education and carrying out research in technological fields. The medium of education is English. It is one of the two Turkish institutes of technology, which are the most advanced models of technical universities in today's world. Having first started with graduate programs in 1994 in the center of İzmir, the faculties have been admitting students to undergraduate programs as well since 1998. By 1999, the institute gradually started moving to its campus area in Urla near Gülbahçe village from the center of İzmir, where it had functioned since its foundation. Our institute, covering approximately 3,500 hectares of land, has a closed area of about 132,000 square meters for educational and research activities and it is still developing. **www.iyte.edu.tr**

Jul 22 - Jul 26
Kyoto, Japan

COMPSAC 2013

The IEEE Signature Conference on Computers, Software, and Applications