



The 12th IEEE International Conference on Computational Science and Engineering (CSE-09)

The 7th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC-09)

The 2009 IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT-09)

The 2009 IEEE International Conference on Social Computing (SocialCom-09)

Organized by St. Francis Xavier University, Canada

**Sponsored by IEEE and IEEE Computer Society
IEEE Technical Committee of Scalable Computing (TCSC)
IEEE Canada Atlantic Section Computational Intelligence Chapter**

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PROGRAM OF CSE-09/EUC-09/PASSAT-09/SOCIALCOM-09 AT A GLANCE

August 28 (Friday)										
14:00-20:00	Registration (Renaissance Vancouver Hotel Harbourside)									

August 29 (Saturday)										
08:00-08:15	Opening Remarks (Harbourside Ballroom I&II)									
08:15-09:00	Keynote 1: Privacy, Security, Risk and Trust in Service-Oriented Environments by Stephen S. Yau (Harbourside Ballroom I&II)									
09:00-10:15	CSE-09 (Vancouver) Session A11	EUC-09 (New York) Session B11	EPS-09 (Hong Kong) Session B21	Keynote 8 (San Francisco) by Jie Wu	CSE-09 (Shanghai) Session A14	PASSAT-09 (Singapore) Session C11	SocialCom-09 (Ballroom III) Session D11	SNMABA-09 (Macau) Session D42	SCA-09 (Sydney) Session D31	Keynote 9 (Hastings) by Marco D. Santambrogio
10:15-10:30	Coffee/Tea Break (Harbourside Foyer, 2 nd Floor)									
10:30-12:10	CSE-09 (Vancouver) Session A1C	EUC-09 (New York) Session B16	EPS-09 (Hong Kong) Session B22	TrustCom-09 (San Francisco) Session B41	CSE-09 (Shanghai) Session A1A	PASSAT-09 (Singapore) Session C12	SocialCom-09 (Ballroom III) Session D12	SNMABA-09 (Macau) Session D41	SCA-09 (Sydney) Session D32	WoRMES-09 (Hastings) Session B61
12:10-13:00	Lunch (Harbourside Ballroom I&II, 2 nd floor)									
13:00-14:00	Keynote 2: Elections with Practical Privacy and Transparent Integrity by David Chaum (Harbourside Ballroom I&II)									
14:00-15:15	CSE-09 (Vancouver) Session A13	EUC-09 (New York) Session B15	EPS-09 (Hong Kong) Session B23	TrustCom-09 (San Francisco) Session B41	CSE-09 (Shanghai) Session A19	PASSAT-09 (Singapore) Session C13	SocialCom-09 (Ballroom III) Session D13	SNMABA-09 (Macau) Session D43	SCA-09 (Sydney) Session D33	UUWSN-09 (Hastings) Session B81
15:15-15:30	Coffee/Tea Break (Ballroom Foyer East, 2 nd Floor)									
15:30-17:00	CSE-09 (Vancouver) Session A16	EUC-09 (New York) Session B1C	EPS-09 (Hong Kong) Session B25	TrustCom-09 (San Francisco) Session B42	SecureCom-09 (Shanghai) Session C23	PASSAT-09 (Singapore) Session C14	SocialCom-09 (Ballroom III) Session D14	SIN-09 (Macau) Session D21	SCA-09 (Sydney) Session D34	2CCom-09 (Hastings) Session B31
17:00-19:30			EPS-09 (Hong Kong) Session B24	TrustCom-09 (San Francisco) Session B43	SEC-09 (Shanghai) Session A23	SBM-09 (Singapore) Session D51&D52		SIN-09 (Macau) Session D23	SCA-09 (Sydney) Session D35	
19:30-21:30	Reception (Vistas, 19 th floor)									

August 30 (Sunday)

08:00-09:00	Keynote 3: Cache-Aware Scheduling and Analysis for Multicores by Wang Yi (Harbourside Ballroom I&II)											
09:00-10:15	CSE-09 (Vancouver) Session A17	EUC-09 (New York) Session B17	EPS-09 (Hong Kong) Session B27	TrustCom-09 (San Francisco) Session B44	SecureCom-09 (Shanghai) Session C21	SP4SPNA-09 (Singapore) Session DA1	SocialCom-09 (Ballroom III) Session D15	SIN-09 (Macau) Session D26	SCA-09 (Sydney) Session D39	SMW-09 (Hastings) Session D91	SCMPS-09 (Ballroom I) Session D71	SecureCom-09 (Ballroom II) Session C24
10:15-10:30	Coffee/Tea Break (Harbourside Foyer, 2 nd Floor)											
10:30-12:10	CSE-09 (Vancouver) Session A18	EUC-09 (New York) Session B1A	EPS-09 (Hong Kong) Session B26	TrustCom-09 (San Francisco) Session B44	SecureCom-09 (Shanghai) Session C25	SP4SPNA-09 (Singapore) Session DA2	Tutorial 1 (Ballroom III)	SIN-09 (Macau) Session D22	SCA-09 (Sydney) Session D37	SMW-09 (Hastings) Session D92	SCMPS-09 (Ballroom I) Session D72	SecureCom-09 (Ballroom II) Session C26
12:10-13:00	Lunch (Harbourside Ballroom I&II, 2 nd floor)											
13:00-14:15	Keynote 4: Network Analysis and Visualization for Understanding Social Computing by Ben Shneiderman (Harbourside Ballroom I&II) Keynote 5: Social Computing Applications and Trends by Feiyue Wang (Harbourside Ballroom I&II)											
14:15-15:15	Panel for EUC-09: Vision and Challenges for Embedded and Ubiquitous Computing (New York)					Panel for SocialCom-09: Promoting National Initiatives for Social Networking: Research Agendas for Computing and Information Scientists (Ballroom III)						
15:15-15:30	Coffee/Tea Break (Ballroom Foyer East, 2 nd Floor)											
15:30-17:00	CSE-09 (Vancouver) Session A1B	EUC-09 (New York) Session B1B	EPS-09 (Hong Kong) Session B28	TrustCom-09 (San Francisco) Session B45	SecureCom-09 (Shanghai) Session C22	SP4SPNA-09 (Singapore) Session DA3	Tutorial 2 (Ballroom III)	SIN-09 (Macau) Session D24	SCA-09 (Sydney) Session D36	SMW-09 (Hastings) Session D93	SCMPS-09 (Ballroom I) Session D73	SecureCom-09 (Ballroom II) Session C27
17:00-19:30	CSE-09 (Vancouver) Session A12	EUC-09 (New York) Session B18			UbiHealth-09 (Shanghai) Session BA1	SP4SPNA-09 (Singapore) Session DA4		SIN-09 (Macau) Session D2A	SCA-09 (Sydney) Session D38	SMW-09 (Hastings) Session D94		
19:30-21:30	Banquet (Harbourside Ballroom, 2 nd floor)											

August 31 (Monday)

08:00-09:00	Keynote 6: White Space Networking - Is it Wi-Fi on Steroids? by Prof. Victor Bahl (Harbourside Ballroom I&II)										
09:00-10:15	CSE-09 (Vancouver) Session A15	EUC-09 (New York) Session B13	SPOSN-09 (Hong Kong) Session D81	TrustCom-09 (San Francisco) Session B46	PSA-09 (Shanghai) Session C31	SSP-09 (Singapore) Session C42	SIN-09 (Ballroom III) Session D29	SIN09 (Macau) Session D2B	WSCE-09 (Sydney) Session D62	PMSN-09 (Hastings) Session B71	SIAG-09 (Ballroom I) Session DB1
10:15-10:30	Coffee/Tea Break (Harbourside Foyer, 2 nd Floor)										
10:30-12:10	SEC-09 (Vancouver) Session A21	EUC-09 (New York) Session B12	SPOSN-09 (Hong Kong) Session D82	TrustCom-09 (San Francisco) Session B46	PSA-09 (Shanghai) Session C34	SSP-09 (Singapore) Session C41	SIN-09 (Ballroom III) Session D25	SIN-09 (Macau) Session D27	WSCE-09 (Sydney) Session D61	PMSN-09 (Hastings) Session B72	SIAG-09 (Ballroom I) Session DB2
12:10-13:00	Lunch (Harbourside Ballroom I&II, 2 nd floor)										
13:00-14:00	Keynote 7: Computational Science and Engineering in Emerging Cyber-Ecosystems by Prof. Manish Parashar (Harbourside Ballroom I&II)										
14:00-15:15	SEC-09 (Vancouver) Session A22	EUC-09 (New York) Session B19	SPOSN-09 (Hong Kong) Session D83	AWSN-09 (San Francisco) Session B51	PSA-09 (Shanghai) Session C33	SSP-09 (Singapore) Session C43	SEC-09 (Ballroom III) Session A27	SIN-09 (Macau) Session D28	WSCE-09 (Sydney) Session D63	UNC-09 (Hastings) Session B91&B92	SIAG-09 (Ballroom I) Session DB3
15:15-15:30	Coffee/Tea Break (Ballroom Foyer East, 2 nd Floor)										
15:30-18:30	SEC-09 (Vancouver) Session A25	EUC-09 (New York) Session B14	SEC-09 (Hong Kong) Session A26	AWSN-09 (San Francisco) Session B51	PSA-09 (Shanghai) Session C32	SSP-09 (Singapore) Session C44	SEC-09 (Ballroom III) Session A24	SIN-09 (Macau) Session D28	WSCE-09 (Sydney) Session D63	UNC-09 (Hastings) Session B93&B94	SIAG-09 (Ballroom I) Session DB4

The 2009 IEEE International Conference on Information Privacy, Security, Risk and Trust (PASSAT-09)

Keynote: *Privacy, Security, Risk and Trust in Service-Oriented Environments*

Prof. Stephen S. Yau, Arizona State University, USA

About the keynote speaker



Stephen S. Yau is the director of Information Assurance Center and a professor of computer science and engineering at Arizona State University (ASU), Tempe, Arizona, USA. He served as the chair of the Department of Computer Science and Engineering at ASU in 1994-2001. Previously, he was on the faculties of Northwestern University, Evanston, Illinois, and University of Florida, Gainesville.

He served as the president of the Computer Society of the Institute of Electrical and Electronics Engineers (IEEE) and American Federation of Information-Processing Societies (AFIPS). He was on the IEEE Board of Directors, and the Board of Directors of Computing Research Association. He served as the editor-in-chief of IEEE COMPUTER magazine, and organized many national and international major conferences, including the 1974 National Computer Conference sponsored by AFIPS, Association of Computing Machinery, IEEE Computer Society, and Society for Computer Simulation, and the 1989 World Computer Congress sponsored by International Federation for Information Processing (IFIP). He founded the Annual International Computer Software and Applications Conference (COMPSAC) sponsored by the IEEE Computer Society, in 1977.

His current research includes service-based systems, trustworthy computing, software engineering, mobile ad hoc networks and ubiquitous computing. He has received many awards and recognition for his accomplishments, including the Tsutomu Kanai Award and Richard E. Merwin Award of the IEEE Computer Society, the IEEE Centennial Awards and Third Millennium Medal, the Outstanding Contributions Award of the Chinese Computer Federation, and the Louis E. Levy Medal of the Franklin Institute. He is a Life Fellow of the IEEE and a Fellow of the American Association for the Advancement of Science.

He received the M.S. and Ph.D. degrees from the University of Illinois, Urbana, and the B.S. degree from National Taiwan University, Taipei, all in electrical engineering.

Summary:

Service-Oriented Architecture (SOA) has been adopted in many critical information systems in many application domains, such as health care, scientific research, e-business, and homeland security. While SOA has many advantages, such as rapid composition, deployment, and dynamic adaptation of service-based systems, many issues on security, privacy, risk, and trust in service-oriented environments need to be resolved in order to achieve trustworthy information systems.

In this address, the privacy, security, risk, and trust and their relationship in service-oriented environments will be discussed. The challenging issues and the current state of the art of addressing these issues will be presented. Future directions of research in this area will also be discussed.

Keynote: *Elections with Practical Privacy and Transparent Integrity*

Dr. David Chaum, Board of Directors of DigiCash Inc., USA

About the keynote speaker



Widely recognized as the inventor of electronic cash, he is also known for first proposing cryptographic techniques -- including untraceable communication and credential mechanisms -- that more generally allow individuals to protect their identity and related information. David is also credited with a fundamental role in so-called multi-party computation and has over 50 publications and dozens of patents. With Ph.D in Computer Science from Berkeley, he taught at several universities, established a leading cryptography research group, and founded DigiCash and the International Association for Cryptologic Research.

Summary:

Scantegrity II, an enhancement for optical scan voting systems, achieves a level of integrity unprecedented in scalable elections. It uses unique confirmation codes that are printed on ballots in invisible ink. Voters mark their ballots just as with conventional fill-in-the-oval, but a special pen makes the ink visible so that voters can note the confirmation codes if they wish.

Verifiability of election integrity is complete: voters can check that their confirmation codes are correctly posted by looking them up online by ballot serial number; voters can check that codes correspond correctly to candidates by keeping a voided ballot; and anyone online can check that the tally is computed correctly from all posted codes by performing a simple computation. Even those running the election, and even if they had unlimited code breaking computational resources, would be detected if they tried to alter the outcome. Resistance to vote buying or coercion and the privacy provided are similar to that of the underlying optical scan system.

Scantegrity II works with scanners located in polling places, as in some countries, or at central locations, as would be practical in most other countries. Vote-by-mail, provisional ballots, and voters with disabilities can be accommodated. It is implemented in Java, is open-source, and includes sample programs to verify the proof that the outcome is correct. The system has been tested in small elections using off-the-shelf printers and scanners. A municipal election is planned for November 2009.

The novel techniques for in-person verification and unconditional transparent integrity will hopefully be applicable even beyond elections.

Keynote: *Cache-Aware Scheduling and Analysis for Multicores*

Prof. Wang Yi, Uppsala University, Sweden

About the keynote speaker



Wang Yi received his Ph.D. in computer science from Chalmers University of Technology, Sweden in 1991. He is a chair professor (Embedded Systems) at Uppsala University, and a professor in computer science at North Eastern University, China. He has been a program chair of TACAS, FORMATS, EMSOFT and HSCC, and a track chair of RTSS. He is or has been an editorial board member of Elsevier Journal of Computer Architectures, the Journal of Computer Science and Technology, and IEEE Transactions on Computers.

His research interests include modeling and verification of real-time and embedded systems. He initiated (1993) and co-founded the UPPAAL tool (1995) and also the company UP4ALL (2007). He also co-founded the TIMES tool for scheduling and analysis of timed systems. His current interests are in the development of embedded and real-time applications on multi-core processors. He is directing the Swedish strategic research program CoDeR-MP: Computationally Demanding

Real-Time Applications on Multi-core Platforms, in collaboration with ABB and SAAB. He is also a principle investigator of UPMARC: Uppsala Programming for Multi-core Architectures Research Center.

Summary:

The major obstacle to use multicores for real-time applications is that we may not predict and provide any guarantee on real-time properties of embedded software on such platforms; the way of handling the on-chip shared resources such as L2 cache may have a significant impact on the timing predictability. In this talk, we propose to use cache space isolation techniques to avoid cache contention for hard real-time tasks running on multicores with shared caches. We present a scheduling strategy for real-time tasks with both timing and cache space constraints, which allows each task to use a fixed number of cache partitions, and makes sure that at any time a cache partition is occupied by at most one running task. In this way, the cache spaces of tasks are isolated at run-time. As technical contributions, we present solutions for the scheduling analysis problem. For simplicity, the presentation will focus on non-preemptive fixed-priority scheduling. However, our techniques can be easily adapted to deal with other scheduling strategies like EDF. We have developed a sufficient schedulability test for non-preemptive fixed-priority scheduling for multicores with shared L2 cache, encoded as a linear programming problem. To improve the scalability of the test, we then develop our second schedulability test of quadratic complexity, which is an over approximation of the first test. To evaluate the performance and scalability of our techniques, we use randomly generated task sets. Our experiments show that the first test which employs an LP solver can easily handle task sets with thousands of tasks in minutes using a desktop computer. It is also shown that the second test is comparable with the first one in terms of precision, but scales much better due to its low complexity, and is therefore a good candidate for efficient schedulability tests in the design loop for embedded systems or as an on-line test for admission control.

Keynote: *Network Analysis and Visualization for Understanding Social Computing*

Prof. Ben Shneiderman, University of Maryland, USA

About the keynote speaker



Ben Shneiderman (<http://www.cs.umd.edu/~ben>) is a Professor in the Department of Computer Science Founding Director (1983-2000) of the Human-Computer Interaction Laboratory (<http://www.cs.umd.edu/hcil/>), and Member of the Institute for Advanced Computer Studies at the University of Maryland at College Park. He was elected as a Fellow of the Association for Computing (ACM) in 1997 and a Fellow of the American Association for the Advancement of Science (AAAS) in 2001. He received the ACM SIGCHI Lifetime Achievement Award in 2001. Ben is the author of *Software Psychology: Human Factors in Computer and Information Systems* (1980) and *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (5th ed., March 2009) (<http://www.awl.com/DTUI/>). He pioneered the highlighted textual link in 1983, and it became part of Hyperties, a precursor to the web. His move into information visualization helped spawn the successful company Spotfire (<http://www.spotfire.com/>) whose success was in pharmaceutical drug discovery and genomic data analysis. He is a technical advisor for the HiveGroup (<http://www.hivegroup.com>). His early work on medical histories influenced many contemporary systems and his current work extends the search capabilities for modern Electronic History Records. With S Card and J. Mackinlay, he co-authored *Readings in Information Visualization: Using Vision to Think* (1999). His recent books include *Leonardo's Laptop: Human Needs and the New Computing Technologies* (MIT Press) which won the IEEE book award in 2004.

Summary:

Social computing applications include fabulous success stories and widespread failures. Researchers, user interface designers, and community managers are all struggling to understand the dynamics and determinants of success. Network analysis methods and information visualization tools are rapidly improving to enable data gathering, sophisticated analysis, and comprehensible presentations that support predictive theories, business planning, and community decision making. Social computing is shifting from playful discretionary usage to mission critical applications such as community safety, healthcare delivery, and disaster response. A vast international research effort would help ensure success for these and other applications in business, education, and beyond.

Keynote: *Social Computing Applications and Trends*

Dr. Fei-Yue Wang, the Institute of Automation, CAS, China

About the keynote speaker



Dr. Fei-Yue Wang received his Ph.D in Computer and Systems Engineering, minor in Computer Science, from the Rensselaer Polytechnic Institute (RPI), Troy, New York, USA in 1990. Dr. Wang joined the University of Arizona in 1990 and is the Professor of Systems and Industrial Engineering and Director of the Program for Advanced Research in Complex Systems. In 1999, he founded the Intelligent Control and Systems Engineering Center at the Institute of Automation, Chinese Academy of Sciences, Beijing, China, under the support of the Outstanding Oversea Chinese Talents Program. Since 2002, he has been the Director of the Key Laboratory of Complex Systems and Intelligence Science at the Chinese Academy of Sciences. Since 2006, he has been the Vice President of the Institute of Automation at the Chinese Academy of Sciences. He was the Editor-in Chief of the International Journal of Intelligent Control and Systems from 1995 to 2000, and Editor-in-Charge of Series in Intelligent Control and intelligent Automation from 1996 to 2004. His current research interests include modeling, analysis, and control mechanism of complex systems; Linguistic Dynamic Systems (LDS); intelligent control systems; intelligent spaces, intelligence and security informatics, and social computing. He has published more than 200 books, book chapters, and papers in those areas since 1984 and received more than \$20 million and over ¥50 million RMB from NSF, DOE, DOT, NNSF, CAS, MOST, Caterpillar, IBM, HP, AT&T, GM, BHP, RVSI, ABB, and Kelon.

Dr. Wang is a member of Sigma Xi, ACM, AAI, ASEE, and Fellow of the IEEE, INCOSE, IFAC and AAAS. He is the President of the IEEE Intelligent Transportation Systems Society, Chair of the Systems Management and Complexity Committee of the Chinese Academy of Management. He is a Department Editor and Editor-in-Chief of the IEEE Intelligent Systems, and was an Associate Editor for several IEEE Transactions from 1995 to 2005. He received Caterpillar Research Invention Award with Dr. P. J. A. Lever in 1996 for his work in data-mining-based robotic excavation, the National Outstanding Young Scientist Research Award from the National Natural Science Foundation of China in 2001, the National Awards in Nature Science from the State Council of the People's Republic of China in 2007 for his work in Theories and Algorithms of Intelligent Control, the ACM Distinguished Scientist Award from Association for Computing Machinery in 2007, as well as various industrial awards for his applied research from major corporations.

Summary:

Social computing is a new research field with a long history. Its origins can be traced back to the beginning of modern computing but the Internet and the wide adoption of IT in everyday life have motivated exciting new research directions and enabled tremendous opportunities that integrate cyber and physical worlds. In this talk, we will present a three-stage modeling, analysis, and control approach to social computing. This approach combines Artificial societies for modeling, Computational experiments for analysis, and Parallel execution for control. Case studies using the proposed ACP approach to solve significant engineering and management problems will be discussed.

Keynote: *White Space Networking - Is it Wi-Fi on Steroids?*

Dr. Victor Bahl, Microsoft Research Redmond, USA

About the keynote speaker



Victor Bahl is a Principal Researcher and founding Manager of the Networking Research Group in Microsoft Research Redmond. He is responsible for directing research activities that push the state-of-art in the networking of devices and systems. He and his group build proof-of-concept systems, engage with academia, publish papers in prestigious conferences and journals, publish software for the research community, and work with product groups to influence Microsoft's products. His personal research interests span a variety of topics in wireless systems design, mobile networking, and network management. He has built and deployed several seminal and highly cited networked systems with a total of over 7600 citations. His research has been incorporated into Microsoft's core products, industry standards, and numerous non-Microsoft commercial products. He has

authored over 85 papers in highly-selective conferences and 114 patent applications, 60 of which have issued; he has delivered close to two dozen keynote & plenary talks; he is the founder and past Chairperson of ACM SIGMOBILE; the founder and past Editor-in-Chief of ACM Mobile Computing and Communications Review, and the founder and steering committee chair of the Mobile Systems Conference; he has served as the General Chair of several IEEE and ACM conferences including SIGCOMM and MobiCom, and is serving on the steering committees of seven IEEE & ACM conferences & workshops; he has served on the board of over half-a-dozen journals; on several NSF and NRC panels, and on over six dozen program committees. Dr. Bahl received Digital's Doctoral Engineering Fellowship Award in 1995 and SIGMOBILE's Distinguished Service Award in 2001. In 2004, Microsoft nominated him for the innovator of the year award. He became an ACM Fellow in 2003 and an IEEE Fellow in 2008. When not working, he loves to read, travel, eat in fine restaurants and spend time drinking with friends and family. More on him at <http://research.microsoft.com/~bahl/>.

Summary:

We began our journey with the goal of commoditizing pervasive connectivity for the remaining billions. We gravitated towards providing neighborhood connectivity in developing and rural regions. Businesses saw an opportunity and local government began to value blanket city-wide coverage. But success was not inevitable. Deployments failed and critics questioned the promises. Perhaps the technology was not ready for prime time. So we began "fixing" the technology, part of which included revisiting governmental policies around spectrum allocation. The US government listened and in a landmark ruling on Nov. 4, the FCC voted to open the unused low frequency bands for unlicensed use.

In this talk, I will discuss the evolution of our thinking on how to achieve open pervasive internet connectivity. I will highlight promising new directions that are full of interesting challenges. I will discuss solutions that researchers are developing and show their trajectory. My objective is to present what I believe is the new frontier of wireless networking and ubiquitous Internet, at the intersection of cognitive systems, mesh networking, and white spaces. I will challenge the audience into taking on new technical problems and thinking about new business models, which will lead us to success in our original goal of commoditizing pervasive connectivity for the masses, bridging the digital divide, and enabling exciting new applications and services in the process.

**Keynote: *Computational Science and Engineering in Emerging
Cyber-Ecosystems***

Prof. Manish Parashar, Rutgers University, USA

About the keynote speaker



Manish Parashar is Professor of Electrical and Computer Engineering at Rutgers University, where he also is director of the NSF Center for Autonomic Computing (CAC), associate director of the Rutgers Center for Information Assurance and director of the Applied Software Systems Laboratory. He received a BE degree in Electronics and Telecommunications from Bombay University, India and MS and Ph.D. degrees in Computer Engineering from Syracuse University. He has received the IBM Faculty Award (2008) Rutgers Board of Trustees Award for Excellence in Research (2004-2005), NSF CAREER Award (1999) and the Enrico Fermi Scholarship from Argonne National Laboratory (1996). His research is in the broad area of applied parallel & distributed computing and computational science, and specifically on solving science and engineering problems on very large systems. For more information please visit <http://nscac.rutgers.edu/people/parashar/>.

Summary:

Significant strategic investments are quickly realizing a pervasive computational cyber-infrastructure that integrates computers, networks, data archives, instruments, observatories, and embedded sensors and actuators. This in turn has the potential for enabling new paradigms and practices in computational science and engineering – those that symbiotically and opportunistically combine computations, experiments, observations, and real-time information. However the ability of scientists to realize this potential is being severely hampered primarily due to the increased complexity and dynamism of the applications and computing environments. Autonomic computing has the potential to fundamentally address these challenges. In this talk, I will motivate autonomics for computational science and engineering. I will then describe research efforts at TASSL, Rutgers University as part of the NSF Center for Autonomic Computing aimed at enabling autonomic scientific and engineering applications that can address the challenges of (and benefit from) pervasive computational ecosystems.

The 2009 International Symposium on Trusted Computing and Communications (TrustCom-09)

Keynote: *Trust Mechanisms and Their Applications in Dynamic and Mobile Computer Systems*

Prof. Jie Wu, Temple University, USA

About the keynote speaker



Jie Wu is chairman and professor in the Department of Computer and Information Sciences, Temple University. He was a program director at US National Science Foundation. His research interests include the areas of wireless networks and mobile computing, routing protocols, fault-tolerant computing, and interconnection networks. He has published more than 450 papers in various journals and conference proceedings. He serves in the editorial board of the IEEE Transactions on Mobile Computing. Dr. Wu was also general co-chair for IEEE MASS'06, IEEE IPDPS'08, and DCOSS'09. He has served as an IEEE Computer Society distinguished visitor and is the chairman of the IEEE Technical Committee on Distributed Processing (TCDP). Dr. Wu is a fellow of the IEEE.

Summary:

Reputation is the opinion of one entity about another. In an absolute context, it is the trustworthiness of an entity. The talk will start with different ways of building trust between entities based on reputation, which include direct contacts or third-party recommendations. Then different trust mechanisms used in computer systems are discussed and compared. The talk ends with various applications of trust mechanisms in dynamic and mobile computer systems.

International Workshop on Reconfigurable and Multicore Embedded Systems (WoRMES-09)

Keynote: *From Reconfigurable Architectures to Self-Adaptive Autonomic Systems*

Dr. Marco D. Santambrogio, Massachusetts Institute of Technology, USA

About the keynote speaker



Marco D. Santambrogio received a Master degree in Computer Science from University of Illinois at Chicago and a Laurea in Computer Engineering from Politecnico di Milano, Italy in 2005. He received his Ph.D. degree in Computer engineering from the Politecnico di Milano, Italy in 2008 and he is now Postdoc Fellow at MIT in 2009. He has been with the Micro Architectures Laboratory at the Politecnico di Milano, where he founded the Dynamic Reconfigurability in Embedded System Design (DRES) project in 2004. His main research interests are methodologies for dynamic reconfiguration and hardware/software co-design in embedded system.

Summary:

Systems on a Chip (SoC) can draw various benefits such as adaptability and efficient acceleration of compute-intensive tasks from the inclusion of reconfigurable hardware as a system component. Dynamic reconfiguration capabilities of current reconfigurable devices create an additional dimension in the temporal domain. During the design space exploration phase, overheads associated with reconfiguration and hardware/software interfacing need to be evaluated carefully in order to harvest the full potential of dynamic reconfiguration. In order to overcome the limits deriving by the increasing complexity and the associated workload to maintain such complex infrastructure, one possibility is to adopt self-adaptive and autonomic computing systems. A self-adaptive and autonomic computing system is a system able to configure, heal, optimize and protect itself without the need for human intervention.

A. Sessions and Papers in CSE-09

The 2009 IEEE International Conference on Computational Science and Engineering (CSE-09)

Keynote: Computational Science and Engineering in Emerging Cyber-Ecosystems (Chair: Hai-xiang Lin)

Prof. Manish Parashar, *Rutgers University, USA*

Session A11: Advanced Networking and Applications (Chair: Qing-An Zeng)

Performance Modelling and Analysis of Integrated WLANs and Internet-access Mesh Networks

Geyong Min, Yulei Wu, and Laurence T. Yang

A Trade-off Approach to Optimal Resource Allocation Algorithm with Cache Technology in Ubiquitous Computing Environment

Mianxiong Dong, Kaoru Ota, Song Guo, Minyi Guo, and Li Li

Self-Tuning the Parameter of Adaptive Non-linear Sampling Method for Flow Statistics

Chengchen Hu and Bin Liu

Session A12: Mobile Computing and Wireless Communications (Chair: Yulei Wu)

A Cognitive Approach to Achieve Fair Uplink and Downlink Utilities in Wireless Networks

Chiapin Wang and Kueihsiang Liang

A Weighted-Dissimilarity-Based Anomaly Detection Method for Mobile Wireless Networks

Ihn-Han Bae and Stephan Olariu

A Novel Resource Management Scheme for Integrated Multiple Traffic Heterogeneous Systems

Cheng Zhu, Qing-An Zeng, and Dharma Agrawal

Session A13: Database and Data Mining (Chair: Carson Leung)

Scalable APRIORI-Based Frequent Pattern Discovery

Sean Chester, Ian Sandler, and Alex Thomo

Event-Driven Approach for Logic-based Complex Event Processing

Darko Anicic, Paul Fodor, Roland Stühmer, and Nenad Stojanovic

Incremental Discovery of Sequential Patterns Using a Backward Mining Approach

Ming-Yen Lin, Sue-Chen Hsueh, and Chih-Chen Chan

Session A14: Cluster and Grid Computing I (Chair: Jinjun Chen)

Data Distribution Methods for Communication Localization in Multi-Clusters with Heterogeneous Network

Shih-Chang Chen, Ching-Hsien Hsu, and Chun-Te Chiu

An Analytical Model of Communication Networks in Multi-cluster Systems in the Presence of Non-uniform Traffic

Hojjat Sharifi, Mohammad K Akbari, and Bahman Javadi

Balanced and Efficient Data Placement and Replication Strategy for Distributed Backup Storage Systems

K.Renuka, S.S. Tan, Y.Q. Zhu, T.C. Low, and Y.H. Wang

Session A15: Cluster and Grid Computing II (Chair: Salvatore Venticinque)

Improvement on Scheduling Dependent Tasks for Grid Applications

Elaine C.Machtans, Liria M.Sato, and Airton Deppman

Fault-Tolerance Scheduling by Using Rough Set Based Multi-checkpointing on Economic Grids

Asgarali Bouyer, Abdul Hanan Abdullah, Hasan Ebrahimpour, and Firouz Nasrollahi

A Volunteer-Computing-Based Grid Environment for Connect6 Applications

I-Chen Wu, Chingping Chen, Ping-Hung Lin, Guo-Chan Huang, Lung-Ping Chen, Der-Johng Sun, Yi-Chih Chan, et al.

Session A16: Pervasive and Ubiquitous Computing (Chair: Robert C. H. Hsu)

A Safe RSS Approach for Securely Sharing Mobile SVG Biomedical Images for Web 2.0

Sabah Mohammed, Lyle F. Chamarette, Jinan Fiaidhi, and Sylvia Osborn

An Energy Efficient Routing Protocol in Wireless Sensor Networks

Kyung Tae Kim, Byung Jun Lee, Jae Hyun Choi, Bo Yle Jung, and Hee Yong Youn

Location-based Adaptive Mobile Learning Research Framework and Topics

Qing Tan, Kinshuk, Yen-Hung Kuo, Yu-Lin Jeng, Po-Han Wu, Yueh-Min Huang, Tzu-Chien Liu, and Maiga Chang

Session A17: CSE Applications I (Chair: Jian-Hung Chen)

Stable Bayesian Parameter Estimation for Biological Dynamical Systems

Alberto Giovanni Busetto and Joachim M. Buhmann

On Performance Enhancement of Circuit Simulation Using Multithreaded Techniques

Ruey-Kuen Perng, Tien-Hsiung Weng, and Kuan-Ching Li

A Software Architecture-Based Framework Supporting Suggestion of Medical Surveillance Level from Classification of Electronic Patient Records

Juliana T. Pollettini, Flávia P. Nicolas, Sylvia G. Panico, Julio C. Daneluzzi, Renato Tinos, José A. Baranauskas, et al.

Session A18: Intelligent and Bio-inspired Computing (Chair: Ruppa Thulasiram)

Robust Translational Motion of Single-row SPCE by the Parallel Binocular

Gwo-Long Lin

Mining Frequent Patterns with Gaps and One-off Condition

Yongming Huang, Xindong Wu, Xuegang Hu, Fei Xie, Jun Gao, and Gongqing Wu

An Evolutionary Approach for Multi-objective 3D Differentiated Sensor Network Deployment

Chih-Wei Kang and Jian-Hung Chen

Session A19: Distributed and Parallel Computing I (Chair: Hai Jiang)

A Coarse-Grain Parallel Genetic Algorithm for Flexible Job-Shop Scheduling with Lot Streaming

Fantahun M. Defersha and Mingyuan Chen

Parallel Computation of Nash Equilibria in N-Player Games

Jonathan Widger and Daniel Grosu

An Efficient Dynamic Load Balancing Scheme for Multi-agent System Reflecting Agent Workload

Yong Hee Kim, Seungwok Han, Chang Hun Lyu, and Hee Yong Youn

Session A1A: Distributed and Parallel Computing II (Chair: Hai Jiang)

Efficient Broadcast on Area of Interest in Voronoi Overlays

Michele Albano, Ranieri Baraglia, Matteo Mordacchini, and Laura Ricci

Hardware Supported Multicast in 2-D Mesh InfiniBand Networks

Jiazheng Zhou, Shen-En Liu, and Yeh-Ching Chung

Energy Consumption of Residential and Professional Switches

Helmut Hlavacs, Georges da Costa, and Jean-Marc Pierson

Session A1B: Scientific and Engineering Computing (Chair: Hai-xiang Lin)

A Comparative Study of Blocking Storage Methods for Sparse Matrices on Multicore Architectures

Vasileios Karakasis, Georgios Goumas, and Nectarios Koziris

MCD: Mesh Closure Detection for Localized Load Balancing in Scientific Applications

Chonglei Mei, Ruipeng Li, Hai Jiang, and Jeff Jenness

Robust Optimization on Across-chain Inventory Control of Cluster Supply Chains

Jizi Li, Naixue Xiong, Chunling Liu, Linfu Sun, Ming Cao, and Shaohua Wan

Session A1C: CSE Applications II (Chair: Ruppa Thulasiram)

Integration of Mobile Agents Technology and Globus for Assisted Design and Automated Development of Grid Services

Rocco Aversa, Beniamino Di Martino, and Salvatore Venticinqu

Parameter Identifiability and Optimal Experimental Design

Elias August

High Performance Printing: Increasing Personalized Documents Rendering through PPML Jobs Profiling and Scheduling

Thiago Nunes, Mateus Raeder, Mariana Kolberg, Luiz Gustavo Fernandes, Alexis Cabeda, and Fabio Giannetti

The 2009 International Symposium on Scientific and Engineering Computing (SEC-09)

Session A21: Cluster and Grid Computing (Chair: Jinjun Chen)

A P2P Hierarchical Metascheduler to Obtain QoS in a Grid Economy Services

Maycon L.M. Peixoto, Marcos J. Santana, and Regina H.C. Santana

An Architecture for Integrating Databases with Replication Support Based on the OGSA-DAI Middleware

Mathias Brito, Fernando Kakugawa, Liria Sato, Pedro Correa, Luciano Ogiboski, and Rogerio Leis

Performance Comparison of Four-Socket Servers Architecture on HPC Workload

Verdi March and Simon See

Session A22: Database and Data Mining (Chair: Carson Leung)

XML with Recursive Querying

Kamal Taha and Ramez Elmasri

An Efficient High-Dimensional Indexing Scheme Using a Clustering Technique for Content-based Retrieval

Hyun-Jo Lee, Hyeong-Il Kim, and Jae-Woo Chang

IMBT - A Binary Tree for Efficient Support Counting of Incremental Data Mining

Chia-Han Yang and Don-Lin Yang

Optimization of Distributed SPARQL Queries Using Edmonds' Algorithm and Prim's Algorithm

Ben P. Vandervalk, E. Luke McCarthy, and Mark D. Wilkinson

Session A23: Pervasive and Ubiquitous Computing (Chair: Chiu-Kuo Liang)

An Effective Data Gathering Scheme in Heterogeneous Energy Wireless Sensor Networks

Yingchi Mao, Zhen Liu, Lili Zhang, and Xiaofang Li

CA-MAC: Context Adaptive MAC Protocol for Wireless Sensor Networks

Kyung Tae Kim, Won Jun Choi, Myung Jin Whang, and Hee Yong Youn

Spiral Grid Routing for Load Balance in Wireless Sensor Networks

Chiu-Kuo Liang and Chih-Shiuan Li

Study on 3D Annotation in Virtual Space for Collaboration

Eun-Joo Sin, Yoon-Chul Choy, and Soon-Bum Lim
Analysis of 2-State, 3-Neighborhood Cellular Automata Rules for Cryptographic Pseudorandom Number Generation
Sang-Ho Shin and Kee-Young Yoo

Session A24: CSE Applications (Chair: Chenghua Li)

SVM based Hybrid Moment Features for Natural Scene Categorization
Devendran V, Hemalatha Thiagarajan, and Amitabh Wahi
A Fast Backlight Module Luminance Inspection Method
Wu-Ja Lin and Chih-Wei Ho
SOM-Based Hedge Ratio Estimation with Hierarchical Cluster Resampling
Yu-Chia Hsu and An-Pin Chen
Development of Integrated Retrieval Methods for OpenAPIs and Mash-Up Capable Services
Seung-Jun Cha and Kyu-Chul Lee

Session A25: Dependable and Secure Computing I (Chair: Tony Li Xu)

Minesweeper for Sensor Networks-Making Event Detection in Sensor Networks Dependable
Karima B. Hein and Reinhold Weiss
An Evaluating Model for Anti-virus Ability Based on AHP
Ming Liu, Lansheng Han, Mengsong Zou, and Qiwen Liu
A New Security Mechanism to Perform Traffic Anonymity with Dummy Traffic Synthesis
Wazen M. Shbair, Ahmed R. Bashandy, and Samir I. Shaheen

Session A26: Distributed and Parallel Computing (Chair: Hao Wang)

Implementation and Evaluation of Modular Neural Networks in a Multiple Processor System on Chip to Classify Electric Disturbance
Danniel Cavalcante Lopes, Rafael Marrocos Magalhães, Jorge Dantas de Melo, and Adrião Duarte Dória Neto
A New Hierarchical Network Coordinate Algorithm Based on Community Structure
Zilong Ye, Yabing Liu, and Siguang Chen
Power Efficient Large Matrices Multiplication by Load Scheduling on Multi-core and GPU platform with CUDA
DaQi Ren and Reiji Suda
A Design Methodology for Self-Management in Distributed Environments
Ahmad Al-Shishtawy, Vladimir Vlassov, Per Brand, and Seif Haridi

Session A27: Scientific and Engineering Computing (Chair: Robert C. H. Hsu)

Computer Simulation of the Anisotropy of Fluorescence in Ring Molecular Systems: Influence of Disorder and Ellipticity
Pavel Herman, David Zapletal, and Ivan Barvík
Flattened Conservative Parallel Simulator for DEVS and CELL-DEVS
Shafagh Jafer and Gabriel Wainer
Supply Chain Design Model Based on Multi-supply Hubs
Jizi Li, Naixue Xiong, Linfu Sun, Aping Yuan, Jingyi Chen, and Ming Cao

B. SESSIONS AND PAPERS IN EUC-09

The 7th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC-09)

Keynote: Cache-Aware Scheduling and Analysis for Multicores (Chair: Jingling Xue)

Prof. Wang Yi, *Uppsala University, Sweden*

Keynote: White Space Networking – Is it Wi-Fi on Steroids? (Chair: Victor Leung)

Dr. Victor Bahl, *Microsoft Research Redmond, USA*

Session B11: Embedded Systems and HW/SW Codesign (Chair: Jingling Xue)

On the Design of a Suitable Hardware Platform for Protocol Stack Processing in LTE Terminals

Sebastian Hessel, David Szczesny, Shadi Traboulsi, Attila Bilgic, and Josef Hausner

A Region-Based Allocation Approach for Page-Based Scratch-Pad Memory in Embedded Systems

Sheng-Wei Huang, Yung-Chang Chiu, Zhong-Ho Chen, Ce-Kuen Shieh, Alvin Wen-Yu Su, and Tyng-Yeu Liang

Reducing Leakage Power of JPEG Image on Asymmetric SRAM

Yu-Hsun Lin, Xuan-Yi Lin, and Yeh-Ching Chung

Session B12: Multimedia and Data Management (Chair: Jianhua Ma)

Fast Inter Mode Decision Algorithm Based on the MB Activity for MPEG-2 to H.264/AVC Transcoding

Xingang Liu, Wei Zhu, and Kook-Yeol Yoo

Dynamic Reconfigurable Shaders with Load Balancing for Embedded Graphics Processing

Yi-Chi Chen, Hui-Chin Yang, Chung-Ping Chung, and Wei-Ting Wang

Real Time Multiple Object Tracking Using Tracking Matrix

Fei Hao, Zhenjiang Miao, Ping Guo, and Zhan Xu

Visible and IR Data Fusion Technique Using the Contourlet Transform

Soad Ibrahim and Michael Wirth

Session B13: Power-Aware Computing (Chair: Man Lin)

Rotation Scheduling and Voltage Assignment to Minimize Energy for SoC

Meikang Qiu, Laurence T. Yang, and Edwin H.-M. Sha

Grouping-Based Dynamic Power Management for Multi-threaded Programs in Chip-multiprocessors

Mu-Kai Huang, J. Morris Chang, and Wei-Mei Chen

K-Stage Pipelined Bloom Filter for Packet Classification

Mahmood Ahmadi and Stephan Wong

Session B14: Sensor Networks (Chair: Ming Hong)

A Two-Stage Bootloader to Support Multi-Application Deployment and Switching in Wireless Sensor Networks

Alan Marchiori and Qi Han

Residual Time Aware Forwarding for Randomly Duty-Cycled Wireless Sensor Networks

Long Cheng, Canfeng Chen, Jian Ma, Lei Shu, Hongyang Chen, and Laurence T. Yang

The More Relay Nodes, The More Energy Efficient?

Ying Zhu and Qi Han

Malady: A Machine Learning-Based Autonomous Decision-Making System for Sensor Networks

Sudha Krishnamurthy, Geethapriya Thamilarasu, and Christian Bauckhage

Design of an RFID Air Protocol Filtering Technique

Hyun-Sung Park and Jong-Deok Kim

Completely Distributed Low Duty Cycle Communication for Long-living Sensor Networks

Marcin Brzozowski, Hendrik Salomon, and Peter Langendoerfer

Session B15: Wireless Communications (Chair: Qing-An Zeng)

Design and Implementation of WLAN-Based Automatic Vehicle Identification

Hyun-Sung Park, Seung-Chur Yang, Doo-Hwan Oh, and Jong-Deok Kim

Adaptive and Intelligent Route Learning for Mobile Assets using Geo-tracking and Context Profiles

Dineshbalu Balakrishnan, Amiya Nayak, and Pulak Dhar

Control-Channel-Reuse-Based Multiple-Channel MAC (CRM-MAC) for Ad Hoc Networks

Divya Sardana and Qing-An Zeng

Session B16: Middleware and P2P (Chair: Young-Sik Jeong)

Analysing Bit Torrent's Seeding Strategies

Xinuo Chen and Stephen A. Jarvis

A Middleware for Controlling the Execution of Composite Services

Xinfeng Ye and Yi Chen

2T-DHT: A Two Tier DHT for Implementing Publish/Subscribe

Mayank Pandey, Syed Mushtaq Ahmed, and Banshi Dhar Chaudhary

mBrace: Action-based Performance Monitoring of Multi-tier Web Applications

Andrej van der Zee, Alexandre Courbot, and Tatsuo Nakajima

Session B17: Embedded Software and Optimization I (Chair: Minyi Guo)

Reducing Code Size by Graph Coloring Register Allocation and Assignment Algorithm for Mixed-Width ISA Processor

Jyh-Shian Wang, I-Wei Wu, Yu-Sheng Chen, Jean Jyh-Jiun Shann, and Wei-Chung Hsu

Optimization of Component Connections for an Embedded Component System

Takuya Azumi, Hiroshi Oyama, and Hiroaki Takada

Improving Hybrid Flash-Disk Storage by Incorporating Sequential Pattern Mining into Fully-Associative Sector Translation

Un-Keun Yoon and Han-joon Kim

Session B18: Pervasive and Ubiquitous Computing I (Chair: Runhe Huang)

Distributed Agents Network for Ubiquitous Monitoring and Services Exploitation

Rocco Aversa, Beniamino Di artino, and Salvatore Venticinque

Extended Dempster-Shafer Theory in Context Reasoning for Ubiquitous Computing Environments

Daqiang Zhang, Jiannong Cao, Jingyu Zhou, and Minyi Guo

GUPSS: A Gateway-Based Ubiquitous Platform for Smart Space

Tomomi Kawashima, Jianhua Ma, Runhe Huang, and Bernady O. Apduhan

Leveraging Computation Sharing and Parallel Processing in Location-based Services

Jonathan Cazalas and Kien Hua

A Recommendation Framework towards Personalized Services in Intelligent Museum

Shandan Zhou, Xingshe Zhou, Zhiwen Yu, Kaibo Wang, Haipeng Wang, and Hongbo Ni

Session B19: Dependable, Autonomic, Secure Computing (Chair: Alexandre Sztajnberg)

Finding the Needle: Suppression of False Alarms in Large Intrusion Detection Data Sets

James J. Treinen and Ramakrishna Thurimella

Self-adaptation of Fault Tolerance Requirements Using Contracts

André Luiz B. Rodrigues, Leila N. Bezerra, Alexandre Sztajnberg, and Orlando Loques

Architectural Support for Automated Software Attack Detection, Recovery, and Prevention

Jesse Sathre, Alex Baumgarten, and Joseph Zambreno

Session B1A: Real-Time and Cyper-Physical Systems (Chair: Wang Yi)

Swift Mode Changes in Memory Constrained Real-Time Systems

Mike Holenderski, Reinder J. Bril, and Johan J. Lukkien

WCET Analysis of the UC/OS-II Real-Time Kernel

Mingsong Lv, Nan Guan, Yi Zhang, Rui Chen, Qingxu Deng, Ge Yu, and Wang Yi

Real Time Rectification for Stereo Correspondence

Khurram Jawed, John Morris, Tariq Khan, and Georgy Gimel'farb

Coordinated Runtime Adaptations in Cooperative Open Real-Time Systems

Luis Nogueira, Luis Miguel Pinho, and Jorge Coelho

Avoiding Delay Jitter in Cyber-physical Systems Using One Way Delay Variations Model

Huthaifa Al-Omari, Francis Wolff, Christos Papachristou, and David McIntyre

Session B1B: Pervasive and Ubiquitous Computing II (Chair: Salvatore Venticinque)

Performance Analysis of an HMM-Based Gesture Recognition Using a Wristwatch Device

Roman Amstutz, Oliver Amft, Brian French, Asim Smailagic, Dan Siewiorek, and Gerhard Troester

A Tree-Structured Intelligence Entity Pool and Its Sharing among Ubiquitous Objects

Runhe Huang, Jianhua Ma, and Qun Jin

A Lightweight Architecture for Secure Two-party Mobile Payment

Yunpu Zhu and Jacqueline E. Rice

Session B1C: Embedded Software and Optimization II (Chair: Jenq Kuen Lee)

Better than Optimal: Fast Identification of Custom Instruction Candidates

Joseph Reddington, Gregory Gutin, Adrian Johnstone, Elizabeth Scott, and Anders Yeo

Comparison of Bank Change Mechanisms for Banked Reduced Encoding Architectures

Je-Hyung Lee, Soo-Mook Moon, and Hyung-Kyu Choi

Optimizing Embedded Virtual Machines

Joel Koshy, Raju Pandey, and Ingwar Wirjawan

Support of Paged Register Files for Improving Context Switching on Embedded Processors

Chung-Wen Huang, Kun-Yuan Hsieh, Jia-Jhe Li, and Jenq Kuen Lee

Dynamic Scratch-Pad Memory Management with Data Pipelining for Embedded Systems

Yanqin Yang, Meng Wang, Zili Shao, and Minyi Guo

Evaluating the Performance of a Chaos Genetic Algorithm for Solving the Network on Chip Mapping Problem

Fahime Moein-darbari, Ahmad Khademzadeh, and Golnar Gharooni-fard

The 2009 International Symposium on Embedded and Pervasive Systems (EPS-09)

Session B21: Real-time Embedded Systems (Chair: Antônio A. Fröhlich)

On the Design of Flexible Real-Time Schedulers for Embedded Systems

Hugo Marcondes, Rafael Cancian, Marcelo Stemmer, and Antônio Augusto Fröhlich

Delayed Interrupt Processing Technique for Reducing Latency of Timer Interrupt in Embedded Linux

Maobing Dai and Yutaka Ishikawa

Practical Implementation of a Middleware and Software Component Architecture Supporting Reconfigurability of Real-time Embedded Systems

Mariusz Pelc, Richard Anthony, James Hawthorne, and Paul Ward

Session B22: Data Management and Multimedia (Chair: Doo-Soon Park)

Blocked-Z Test for Reducing Rasterization, Z Test and Shading Workloads

Chung-Ping Chung, Hong-Wei Chen, and Hui-Chin Yang

A Hierarchical Primitive Lists Structure for Tile-Based Rendering

Chih-Chieh Hsiao, Chung-Ping Chung, and Hui-Chin Yang

Methods for Precise False-Overlap Detection in Tile-Based Rendering

Hsiu-ching Hsieh, Chih-Chieh Hsiao, Hui-Chin Yang, Chung-Ping Chung, and Jean Jyh-Jiun Shann

H-Buffer: An Efficient History-Based and Overflow Sharing Transparent Fragment Storage Method

Chung-Ping Chung, Tung-Lin Lu, and Hui-Chin Yang

HyperCircle: An Efficient Broadcast Protocol for Super-Peer P2P Networks

Feiyu Lin, Christopher Henricsson, Syed Muhammad Abbas, and Kurt Sandkuhl

Session B23: Wireless Communications (Chair: Janet Light)

Caching-Based Multipath Routing Protocol

Vineet Joshi, Xuefu Zhu, and Qing-An Zeng

A Coordinating Multiple Channel Assignment Scheme and AP Deployment in a Wireless Network

Fang-Yie Leu and Yao-Tian Huang

Analysis of Vehicular Roaming through Multiple WLAN APs in Container Terminal

Hyun-Sung Park, Seung-Ho Han, and Jong-Deok Kim

Session B24: Mobile Computing (Chair: Yulei Wu)

Processing Approximate Moving Range Queries in Mobile Sensor Environments

Antoniya Petkova, Kien A. Hua, and Alexander Aved

Service-Oriented Adaptation in Ubiquitous Computing Environments

Kurt Geihs, Roland Reichle, Michael Wagner, and Mohammad Ullah Khan

Rehoming Decision Algorithm: Design and Empirical Evaluation

Amine Dhraief and Nicolas Montavont

Black Bridge: A Scatternet Formation Algorithm for Solving a New Emerging Problem

Yanqin Yang, Minyi Guo, Feilong Tang, and Gongwei Zhang

Choosing Service Directory Nodes in Proposed Service Discovery Model for Mobile Ad-hoc Networks

Shengrong Bu and Peter Liu

Accumulating a Personalised Ubiquitous Learning Platform for Enhancing the Third Level Educational Experience

Olapeju Latifat Ayoola and Dr Eleni Mangina

Session B25: Reliability and Security (Chair: Guojun Wang)

MAW: A Reliable Lightweight Multi-Hop Wireless Sensor Network Routing Protocol

Kunjan Patel, Jong Chern Lim, C.J. Bleakley, and Wim Vanderbauwhede

A Hierarchical Authentication Scheme for the Different Radio Ranges Sensor Networks

Ang Gao, Wei Wei, Zhixiao Wang, and Yan Wenyao

Are You a Safe Driver

Lonnie Langle and Ram Dantu

Session B26: Optimization and HW/SW Co-designs (Chair: Pao-Ann Hsiung)

Performance Improvement for Flash Memories Using Loop Optimization

Joon-Young Paik, Eun-Sun Cho, and Tae-Sun Chung

Efficient and Adapted Component-Based Strategies for Embedded Software Device Drivers Development

Juan Navas and Jean-Philippe Babau

The Software and Hardware Integration Linker for Reconfigurable Embedded System

Jih-Ching Chiu, Ta-Li Yeh, and Mun-Kit Leong

Codesign of Embedded Systems with Process/Module Level Real-time Deadlines

Gul N. Khan and Anika Awwal

Pricing the American Option Using Reconfigurable Hardware

Christopher Wynnyk and Malik Magdon-Ismael

Session B27: Power/Energy-Aware Computing (Chair: Meikang Qiu)

QoS-Aware Power Management for Energy Harvesting Wireless Sensor Network Utilizing Reinforcement Learning

Roy Chaoming Hsu, Cheng-Ting Liu, Kuan-Chieh Wang, and Wei-Ming Lee
 Prospector: Multiscale Energy Measurement of Networked Embedded Systems with Wideband Power Signals
Kenji R. Yamamoto and Paul G. Flikkema
 Self-Organized Data-Energy-Aware Clustering and Routing for Wireless Sensor Networks
Ehssan Sakhaee, Naoki Wakamiya, and Masayuki Murata
 A New Energy-Balanced Data Aggregation Scheme in Wireless Sensor Networks
Rabindra Bista, Yong-Ki Kim, Young-Ho Choi, and Jae-Woo Chang

Session B28: Sensor Networks (Chair: Marco Avvenuti)

Dispatch of Mobile Resources in Wireless Sensor Networks
Tzung-Shi Chen, Hua-Wen Tsai, and Chih-Wei Wei
 A Time & Energy Efficient Topology Discovery and Scheduling Protocol for Wireless Sensor Networks
Abdulaziz Barnawi and Roshdy Hafez
 Precision Time Synchronization Using IEEE 1588 for Wireless Sensor Networks
Hyuntae Cho, Jeonsu Jung, Bongrae Cho, Youngwoo Jin, Seung-Woo Lee, and Yunju Baek
 Localization of Shipping Containers in Ports and Terminals Using Wireless Sensor Networks
Stefano Abbate, Marco Avvenuti, Paolo Corsini, and Alessio Vecchio
 A Failure Adapted, Load-Balanced Distributed Routing for Wireless Ad-Hoc Sensor Networks
Shahram Nourizadeh, Y.Q. Song, and J-P Thomesse
 Evaluation of an Adaptive PI Rate Controller for Congestion Control in Wireless Ad-Hoc/Sensor Networks
Chung-Horng Lung and Oliver W.W. Yang

The 4th International Symposium on Cloud and Convergence Computing (2CCom-09)

Session B31: Cloud and Convergence Computing (Chair: Doo-Soon Park)

Visualization of the Constrained Coverage of Mobile Sensor Networks Based on GML
Chang-Wu Lee, Sung-Won Kim, Heon-Jong Lee, Youn-Hee Han, Doo-Soon Park, and Young-Sik Jeong
 A Resource Management System for Fault Tolerance in Grid Computing
HwaMin Lee, DooSoon Park, Min Hong, Sang-Soo Yeo, SooKyun Kim, and SungHoon Kim
 A Distributed Reservation Protocol for Collision-Free Three-Hop Mobility Support in WiMedia MAC
Jin-Woo Kim, Kyeong Hur, Kwang-il Hwang, and Doo-Seop Eom
 Distributed Tag Access with Collision-Avoidance among Mobile RFID Readers
Kwang-il Hwang, Sang-Soo Yeo, and Jong Hyuk Park
 Reprogrammable Module-Linker for Energy-Efficient Wireless Sensor Networks
Seung-Ku Kim, Jae-Ho Lee, Kwang-il Hwang, Kyeong Hur, and Doo-Seop Eom
 Robust ID-Based Remote Mutual Authentication with Key Agreement Scheme for Mobile Devices on ECC
Eun-Jun Yoon and Kee-Young Yoo

The 2009 International Symposium on Trusted Computing and Communications (TrustCom-09)

Welcome Message from Symposium Chairs (Guojun Wang, *Central South University, China*)

Keynote: Trust Mechanisms and Applications in Dynamic and Mobile Systems (Chair: Helen Y. Tang)

Prof. Jie Wu, *Temple University, USA*

Session B41: Trust Model, Propagation and Management (Chair: Lan Wang)

Modeling and Analysis of Trust Management for Cognitive Mission-Driven Group Communication Systems in Mobile Ad Hoc Networks
Jin-Hee Cho, Ananthram Swami, and Ing-Ray Chen
 Design and Validation of PATRICIA for the Mitigation of Network Flooding Attacks
Lan Wang, Qishi Wu, and Yaoqing Liu
 Data deletion with Time-Aware Adversary Model
Marek Klonowski, Michal Przykucki, and Tomasz Struminski
 Obfuscation Mechanism in Conjunction with Tamper-Proof Module
Kazuhide Fukushima, Shinsaku Kiyomoto, and Toshiaki Tanaka
 TBDRM: A TPM-Based Secure DRM Architecture
Aimin Yu, Dengguo Feng, and Ren Liu
 A Novel Server-Based Application Execution Architecture
Chao Chen, Ke Wang, Shuren Liao, Qiuyan Zhang, and Yiqi Dai
 Multidimensional Dynamic Trust Management for Federated Services
Latifa Boursas and Wolfgang Hommel

Session B42: Trusted Services and Applications (Chair: Jin-Hee Cho)

Security Protocol Testing Using Attack Trees
Anderson Morais, Eliane Martins, Ana Cavalli, and Willy Jimenez

Optimal LFSR-Coding Test Data Compression Based on Test Cube Dividing

Maixiang Yi, Huaguo Liang, Kaihua Zhan, and Cuiyun Jiang

Quasi-Classical Semantics and Tableau Calculus of Description Logics for Paraconsistent Reasoning in the Semantic Web

Hui Hou and Jinzhao Wu

Concurrency Control Strategy to Reduce Frequent Rollbacks in Mobile Environments

Salman Abdul Moiz and Lakshmi Rajamani

Session B43: Cryptography and Security Protocols (Chair: Nicolai Kuntze)

An Efficient Privacy Preserving Keyword Search Scheme in Cloud Computing

Qin Liu, Guojun Wang, and Jie Wu

A Direct Anonymous Attestation Protocol Based on Hierarchical Group Signature

Yu Rongwei, Wang Lina, Ma Xiaoyan, and Kuang Bo

A Multi-Party Contract Signing Protocol and Its Implementation via Trusted Computing

Zhenyu Wang, Jianhua Huang, Yu Wang, Xiangdong Li, Xuetao Sun, and Ruimin Wang

An Anonymous Property-Base Attestation Protocol from Bilinear Maps

Yu Qin, DengGuo Feng, and Zhen Xu

Bio-Chaotic Stream Cipher-Based Iris Image Encryption

Abdullah Sharaf Alghamdi, Maqsood Mahmud, and Muhammad Khurram Khan

Session B44: Reliability, Survivability and Fault-Tolerance (Chair: Hai Jiang)

Trust-Based Countermeasures for Securing OLSR Protocol

Asmaa Adnane, Christophe Bidan, and Rafael de Sousa timoteo Junior

Fault Tolerance in MANETs Using a Task-to-Resource Reallocation Framework

Adrian P. Lauf and William H. Robinson

An Effective RM-Based Scheduling Algorithm for Fault-Tolerant Real-Time Systems

Wanfu Ding and Ruifeng Guo

RepCom: Towards Reputation Composition over Peer-to-Peer Communities

Gang Yin, Dianxi Shi, Huaimin Wang, and Min Guo

HASS: Highly Available, Scalable and Secure Distributed Data Storage Systems

Zhiqian Xu and Hai Jiang

Reliable Identities using Off-the-Shelf Hardware Security in MANETs

Nicolai Kuntze, Carsten Rudolph, and Andreas Fuchs

Session B45: Access Control and Authentication (Chair: Ruixuan Li)

Distributed Node Selection for Threshold Key Management with Intrusion Detection in Mobile Ad Hoc Networks

F. Richard Yu, Helen Tang, Fei Wang, and Victor C.M. Leung

HACK: A Health-based Access Control Mechanism for Dynamic Enterprise Environments

Chenjia Wang, Kevin P. Monaghan, and Weisong Shi

Misbehavior Detection Using Implicit Trust Relations in the AODV Routing Protocol

Mohamed Ali Ayachi, Christophe Bidan, Tarek Abbes, and Adel Bouhoula

DAAODV: A Secure Ad-Hoc Routing Protocol Based on Direct Anonymous Attestation

Wenchao Huang, Yan Xiong, and Depin Chen

A GEP-based Anomaly Detection Scheme in Wireless Sensor Networks

Honglei Gao, Guolong Chen, and Wenzhong Guo

L-UCON: Towards Layered Access Control with UCON

Hao Hu, Hao Li, and Dengguo Feng

Session B46: Trusted Computing Platform and Software (Chair: Hamid Mehrvar)

Hardware Containers for Software Components: A Trusted Platform for COTS-Based Systems

Eugen Leontie, Gedare Bloom, Bhagirath Narahari, Rahul Simha, and Joseph Zambreno

A Software Based Approach for Trusted Agent Execution on Malicious Host

Sarosh Hashmi and John Brooke

A Smart Card Power Analysis Simulator

Céline Thuillet, Philippe Andouard, and Olivier Ly

TSGen: A UML Activity Diagram-based Test Scenario Generation Tool

Chang-ai Sun, Baobao Zhang, and Jin Li

Light-Weight Hardware Return Address and Stack Frame Tracking to Prevent Function Return Address Attack

Wen-Fu Kao and S. Felix Wu

RBAC-based Secure Interoperation Using Constraint Logic Programming

Jinwei Hu, Ruixuan Li, and Zhengding Lu

The 2nd International Workshop on Adaptation in Wireless Sensor Networks (AWSN-09)

Session B51: Adaptation in Wireless Sensor Networks (Chair: Marco Avvenuti)

Key Predistribution Schemes Using Block Designs in Wireless Sensor Networks

Sushmita Ruj, Jennifer Seberry, and Bimal Roy

HWSN6: Hospital Wireless Sensor Networks Based on 6LoWPAN Technology: Mobility and Fault Tolerance Management

Antonio J. Jara, Miguel A. Zamora, and Antonio F. G. Skarmeta

Autonomous Management and Control of Sensor Network-based Applications

A.G. Ruzzelli, C. Muldoon, A. Schoofs, T. Campana, G.M.P. O'Hare, and R. Tynan

Intelligent Middleware for Adaptive Sensing of Tennis Coaching Sessions

Richard Tynan, Anthony Schoofs, Conor Muldoon, G.M.P. O'Hare, Ciaran O'Conaire, Philip Kelly, and Noel E. O'Connor

Petri Net Based Reconfigurable Wireless Sensor Networks for Intelligent Monitoring Systems

Chung-Hsien Kuo and Jia-Wun Siao

The 2009 International Workshop on Reconfigurable, Multicore Embedded Systems (WoRMES-09)

Keynote: From Reconfigurable Architectures to Self-Adaptive Autonomic Systems (Chair: Pao-Ann Hsiung)

Dr. Marco D. Santambrogio, *Massachusetts Institute of Technology, USA*

Session B61: Reconfigurable and Multicore Embedded Systems (Chair: Pao-Ann Hsiung)

Architecture Synthesis Methodology for Run-Time Reconfigurable Systems

Pil Woo Chun and Lev Kirischian

Run-Time Component Relocation in Partially-Reconfigurable FPGAs

Victor Dumitriu, Dennis Marcantonio, and Lev Kirischian

Efficient Translation of Algorithmic Kernels on Large-Scale Multi-Cores

Amit Pande and Joseph Zambreno

Multi-Objective Placement of Reconfigurable Hardware Tasks in Real-Time System

Chun-Hsien Lu, Hsiao-Win Liao, and Pao-Ann Hsiung

The 2009 International Workshop on Pervasive Multimedia Sensor Networks (PMSN-09)

Session B71: Pervasive Multimedia Sensor Networks (Chair: Min Chen)

A Fast H.264 Spatial Downscaling Transcoder for Wireless Communication

Min Li, Naixue Xiong, and Chao Ma

Link-Aware Geographic Routing in Wireless Sensor Networks

Heng Chen, Depei Qian, Weiguo Wu, and Weiwei Fang

A Congestion Control Framework for Handling Video Surveillance Traffics on WSN

M. Maimour, C. Pham, and D. Hoang

Session B72: Pervasive Multimedia Sensor Networks (Chair: Min Chen)

Research on an Improved Genetic Algorithm Which Can Improve the Node Positioning Optimized Solution of Wireless Sensor Networks

Bing Jiang, Wei Zhang, and Pan Zhang

A Self-Similarity Frame Traffic Model Based on the Frame Components in 802.11 Networks

Lin Xiang, Xiaohu Ge, Ke Zhang, and Chuang Liu

Cross-Layer Optimized Data Gathering in Wireless Multimedia Sensor Networks

Lei Shu, Manfred Hauswirth, Lei Wang, Yan Zhang, and Jong Hyuk Park

Prediction and Key Computer Programming of Mechanical Properties of Hot Rolled Plate Based on BP Neural Network

Qinghua Zou, Li Chen, Naixue Xiong, Shengzhong Zou, and Chuanbing Wang

The 3rd International Workshop on Ubiquitous UnderWater Sensor Network (UUWSN-09)

Session B81: Ubiquitous UnderWater Sensor Network (Chair: Changhwa Kim)

Efficient UDD Architecture for Underwater Wireless Acoustic Sensor Network

Seung-Joo Lee, Jung-Il Namgung, and Soo-Hyun Park

An Underwater Communication Model Using TMS320C6416 DSK

Tae Hee Won, Jun-Ho Jeon, and Sung-Joon Park

Neighbor Nodes Aware MAC Scheduling Scheme in Underwater Acoustic Sensor Networks

Nam-Yeol Yun, Hui-Jin Cho, and Soo-Hyun Park

Design of OFDM System for High Speed Underwater Communication

Jeong-woo Han, Se-young Kim, Ki-man Kim, Seung-yong Chun, and Kwon Son

The 2009 International Workshop on Ubiquitous Network Computing (UNC-09)

Session B91: Ubiquitous Network Systems (Chair: Min Chen)

An Improved Chinese Segmentation Algorithm Based on New Dictionary Construction

Yan Niu and Lala Li

Network Bandwidth Allocation Based on QoS in iSCSI OSD Storage System

Yong Su

Wireless ECG Monitoring System Based on OMAP

Jing Liang and Yinqin Wu

Session B92: Network Algorithms (Chair: Min Chen)

Routing in 802.11-based Wireless Mesh Networks

Hao Zimian, Wei Xiong, Xiong Naixue, and He Yuhan

An Improved SPECK Algorithm with Bit Plane Lifting and the Optimal Single Value Prediction

Xubing Zhang, Yong Zhu, and Jianhong Fu

A Research on the Self-Applicable Network Virtual Storage Data Distribution Arithmetic

Wei Xiong, Xu Xianbin, Xiong Naixue and He Ruhan

Session B93: Ubiquitous Multimedia Computing (Chair: Min Chen)

Mobile Agent-based Data Gathering for Web Image Retrieval

Ruhan He, Yong Zhu, Naixue Xiong, Wei Zhan, and Yanjun Zhao

A Videoconference System on the Campus Networks Based on H.323 Protocol

Yean Yin, WenBing Lu, and Ke Zhang

Edge Detection Based on Fast Adaptive Mean Shift Algorithm

Yong Zhu, Ruhan He, Naixue Xiong, Pu Shi, and Zhiguang Zhang

Session B94: Ubiquitous Applications (Chair: Min Chen)

Implementation of Unlimited Integer

Kong Weiguang, Zhu Yong, and Wang Yuan

Ride Comfort Simulation Based on the Vibration Characteristics of the Two-Mass System of Vehicle Body and Wheels

H. X. Yang and F. M. Chen

An Analysis and Hierarchical Decomposition for HAMs

Du Xiaoqin, Li Qinghua, and Han Jianjun

Computer Calculation and Plotting on Dynamical Phase Diagrams of Carbon Steel

Qing-hua Zou, Li Chen, Naixue Xiong, Sheng-zhong Zou, and Chuan-bing Wang

A Survey on Fault-Tolerance in Distributed Network Systems

Naixue Xiong, Yan Yang, Ming Cao, Jing He, and Lei Shu

The 2009 International Workshop on Ubiquitous Computing, Management, and Embedded Applications in Healthcare: Strategies and Application Case Studies (UbiHealth-09)

Session BA1: Ubiquitous Computing, Management, and Embedded Applications in Healthcare (Chair: Alexandre Sztajnberg)

A Hybrid Computational Approach for the Prediction of Small Non-coding RNAs from Genome Sequences

Ning Yu, Kyu Hong Cho, Qiang Cheng, and Rafael A. Tesorero

A New Computational Tool for the Post Session Analysis of the Prepulse Inhibition Test in Neural Science

Hongbo Zhou, Hong-Ju Yang, Haiyun Xu, and Qiang Cheng

WiFi-based Telemedicine System: Signal Accuracy and Security

Huyu Ou, Jie Cheng, Qiang Cheng, and Le Yi Wang

Fast Fusion of Medical Images Based on Bayesian Risk Minimization and Pixon Map

Hongbo Zhou, Qiang Cheng, and Mehdi Zargham

Using Discovery and Monitoring Services to Support Context-aware Remote Assisted Living Applications

André Luiz B. Rodrigues, Izabela C. Gomes, Leila N. Bezerra, Alexandre Sztajnberg, Sérgio T. Carvalho, et al.

C. SESSIONS AND PAPERS IN PASSAT-09

The 2009 IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT-09)

Keynote: Privacy, Security, Risk and Trust in Service-Oriented Environments (Chair: Jianhua Ma)

Prof. Stephen S. Yau, *Arizona State University, USA*

Keynote: Elections with Practical Privacy and Transparent Integrity (Chair: Justin Zhan)

Dr. David Chaum, *Board of Directors of DigiCash Inc., USA*

Session C11: Privacy and Security I (Chair: Boi Faltings)

Noise Injection for Search Privacy Protection

Shaozhi Ye, Felix Wu, Raju Pandey, and Hao Chen

Privacy-preserving Bayesian Network for Horizontally Partitioned Data

Saeed Samet and Ali Miri

Privacy-preserving Multi-agent Constraint Satisfaction

Thomas Leaute and Boi Faltings

FaceCloak: An Architecture for User Privacy on Social Networking Sites

Wanying Luo, Qi Xie, and Urs Hengartner

Session C12: Privacy and Security II (Chair: Helen Y. Tang)

Adapting Privacy-Preserving Computation to the Service Provider Model

Florian Kerschbaum

Anonymity, Privacy, Onymity, and Identity: A Modal Logic Approach

Yasuyuki Tsukada, Ken Mano, Hideki Sakurada, and Yoshinobu Kawabe

Privacy-Enhanced Event Scheduling

Benjamin Kellermann and Rainer Böhme

Privacy Management, the Law & Business Strategies: A Case for Privacy Driven Design

Mary-Anne Williams

Session C13: Privacy and Security III (Chair: Steve Yau)

t-plausibility: Semantic Preserving Text Sanitization

Wei Jiang, Mummoorthy Murugesan, Chris Clifton, and Luo Si

Policy-Based Malicious Peer Detection in Ad Hoc Networks

Wenjia Li, Anupam Joshi, and Tim Finin

Success Likelihood of Ongoing Attacks for Intrusion Detection and Response Systems

Wael Kanoun, Nora Cuppens-Boulahia, Frederic Cuppens, Samuel Dubus, and Antony Martin

Session C14: Risk and Trust I (Chair: Boi Faltings)

Tuning Evidence-Based Trust Models

Eugen Staab and Thomas Engel

Trust Is in the Eye of the Beholder

Dimitri DeFigueiredo, Earl Barr, and S. Felix Wu

A Trust-based Multiagent System

Richard Seymour and Gilbert Peterson

Towards Automating Social Engineering Using Social Networking Sites

Markus Huber, Stewart Kowalski, Marcus Nohlberg, and Simon Tjoa

Social Inference Risk Modeling in Mobile and Social Applications

Sara Motehari, Sotirios Zivarras, Mor Naaman, Mohamed Ismail, and Quentin Jones

The 2009 International Symposium on Secure Computing (SecureCom-09)

Session C21: Privacy and Security I (Chair: Mary-Anne Williams)

Anonymity Properties of Stored or Transmitted Data Taken from Bluetooth Scans

David Evans and Robert H. Warren

Privacy Requirements in Vehicular Communication Systems

Florian Schaub, Zhendong Ma, and Frank Kargl

A Framework to Balance Privacy and Data Usability Using Data Degradation

Harold van Heerde, Maarten Fokkinga, and Nicolas Anceaix

Session C22: Privacy and Security II (Chair: Martin Neubauer)

A Lattice-Based Privacy Aware Access Control Model

Kambiz Ghazinour, Maryam Majedi, and Ken Barker

Modelling of Pseudonymity under Probabilistic Linkability Attacks

Martin Neubauer

Privacy-Preserving Integrity-Assured Data Aggregation in Sensor Networks

Gelareh Taban and Virgil D. Gligor

Session C23: Privacy and Security III (Chair: Lan Wang)

User-centric Privacy Framework: Integrating Legal, Technological and Human Aspects into User-Adapting Systems

Victor Manuel García-Barrios

An Empirical Study on Privacy and Secure Multi-party Computation using Exponentiation

I-Cheng Wang, Chih-Hao Shen, Kung Chen, Tsan-sheng Hsu, Churn-Jung Liau, and Da-Wei Wang

A Hybrid Enforcement Model for Group-centric Secure Information Sharing

Ram Krishnan and Ravi Sandhu

A Framework for Enforcing Constrained RBAC Policies

Jason Crampton and Hemanth Khambhammettu

Session C24: Privacy and Security IV (Chair: Chris Clifton)

Guarantee-based Access Control

Mohammed Hussain and David B. Skillicorn

Integrity Verification of Outsourced XML Databases

Ruilin Liu and Hui (Wendy) Wang

Goal-Oriented Software Security Engineering: The Electronic Smart Card Case Study

Riham Hassan, Mohamed Eltoweissy, Shawn Bohner, and Sherif El-Kassas

A Unified Approach to Intra-Domain Security

Craig A. Shue, Andrew J. Kalafut, and Minaxi Gupta

Session C25: Risk and Trust I (Chair: Craig Shue)

A Low-cost Green IT Design and Application of VHSP Based on Virtualization Technology

Chih-Hung and Chang

Improving Host Profiling with Bidirectional Flows

Pavel Minarik, Jan Vykopal, and Vojtech Krmicek

Nearby-Friend Discovery Protocol for Multiple Users

Shashwat Raizada, Goutam Paul, and Vineet Pandey

The Insider Threat Security Architecture

Ghassan Jabbour and Daniel A. Menasce

Session C26: Risk and Trust II (Chair: Kenji Taguchi)

Reputation-Based Ontology Alignment for Autonomy and Interoperability in Distributed Access Control

Daniel Trivellato, Fred Spiessens, Nicola Zannone, and Sandro Etalle

How to overcome the 'Trusted Node Model' in Quantum Cryptography

Peter Schartner and Stefan Rass

The Influence of Personalities upon the Dynamics of Trust and Reputation

Mark Hoogendoorn and S. Waqar Jaffry

Large Online Social Footprints - An Emerging Threat

Danesh Irani, Steve Webb, Kang Li, and Calton Pu

Session C27: Risk and Trust III (Chair: Ravi Sandhu)

A Case Study of Individual Trust Development in Computer Mediated Collaboration Teams

Xusen Cheng, Linda Macaulay, and Alex Zarifis

On the Feasibility of Remote Attestation for Web Services

John Lyle and Andrew Martin

Verifying the Interplay of Authorization Policies and Workflow in Service-oriented Architectures

Michele Barletta, Silvio Ranise, and Luca Vigano

ProActive Caching: Generating Caching Heuristics for Business Process Environments

Mathias Kohler, Achim D. Brucker, and Andreas Schaad

The 2009 International Symposium on Privacy and Security Applications (PSA-09)

Session C31: Privacy and Security I (Chair: Dale Lindskog)

Combining Attribute-Based and Access Systems

Behzad Malek and Ali Miri

Analysis of the GMPLS Control Plane Security

Clement Ayonote, Pavol Zavarsky, and Dale Lindskog

Diversity in Network Attacker Motivation: A Literature Review

Mark Rounds and Norman Pendgrafi

Session C32: Privacy and Security II (Chair: Peidong Zhu)

Emergency Privacy Measures

Hendrik Johannes Gerhardus and Oberholzer

Designing Privacy for Scalable Electronic Healthcare Linkage

Anthony Stell, Richard Sinnott, Oluwafemi Ajayi, and Jipu Jiang
Routing Policy Conflict Detection without Violating ISP's Privacy
Ning Hu, Peidong Zhu, Huayang Cao, and Kan Chen
Practical Values for Privacy
Benjamin Wasser and Justin Zhan

Session C33: Privacy and Security III (Chair: Mark Rounds)

Phishpin: An Identity-Based Anti-phishing Approach
Hicham Tout and William Hafner
Security Implications of Virtualization: A Literature Study
André van Cleeff, Wolter Pieters, and Roel J. Wieringa
ViDPsec Visual Device Pairing Security Protocol
Dimitris Zisiadis, Spyros Kopsidas, and Leandros Tassioulas
Lightweight IDS Based on Features Selection and IDS Classification Scheme
Safaa Zaman and Fakhri Karray

Session C34: Risk and Trust (Chair: Shi-Cho Cha)

A Study of the Methods for Improving Internet Usage Policy Compliance
Mandeep Saran and Pavol Zavarisky
Process-oriented Approach for Validating Asset Value for Evaluating Information Security Risk
Shi-Cho Cha, Li-Ting Liu, and Bo-Chen Yu
An Efficient Framework for IT Controls of Bill 198 (Canada Sarbanes-Oxley) Compliance by Aligning COBIT 4.1, ITIL v3 and ISO/IEC 27002
Zhitao Huang, Pavol Zavarisky, and Ron Ruhl
Ceremonies Formal Analysis in PKI's Context
Jean Everson Martina, Tulio Cicero Salavaro de Souza, and Ricardo Felipe Custodio

The 2009 International Workshop on Software Security Process (SSP-09)

Session C41: Software Engineering for Security (Chair: Corrado Aaron Visaggio)

Specification of Fair Data Practice Principles Using Privacy Policy Languages
Girma Nigusse, Bart De Decker, and Vincent Naessens
Limiting Private Data Exposure in Online Transactions - A User-Based Online Privacy Assurance Model
Alaa El Masri and João Pedro Sousa
A Privacy Framework for Personal Self-Improving Smart Spaces
N. Liampotis, I. Roussaki, E. Papadopoulou, Y. Abu-Shaaban, M.H. Williams, N.K. Taylor, S.M. McBurney, and K. Dolinar
Knowledge Acquisition and Insider Threat Prediction in Relational Database Systems
Qussai Yaseen and Brajendra Panda

Session C42: Data Privacy (Chair: Brajendra Panda)

Activity and Artifact Views of a Secure Software Development Process
Muhammad Umair Ahmed Khan and Mohammad Zulkernine
An AHP-based Framework for Quality and Security Evaluation
Valentina Casola, Anna Rita Fasolino, Nicola Mazzocca, and Porfirio Tramontana
Assurance Process for Large Open Source Code Bases
Claudio Agostino Ardagna, Ernesto Damiani, Massimo Banzi, and Fulvio Frati

Session C43: Risk Management (Chair: Valentina Casola)

Managing Risk of IT Security Outsourcing in the Decision-making Stage
Samuel Oladapo, Pavol Zavarisky, Andy Igonor, Ron Ruhl, and Dale Lindskog
Risk Perceptions of Information Security: A Measurement Study
Fariborz Farahmand, Melissa Dark, Sydney Liles, and Brandon Sorge
Managing Risks on Critical IT Systems in Public Service Organizations
Yeni Yuqin and Li Helgesson

Session C44: Trust and Security Models (Chair: Gerardo Canfora)

A Dynamic Trust Evaluation Model on C2C Marketplaces
Yun Yang and Junhua Chen
Threat Modeling for CSRF Attacks
Xiaoli Lin, Pavol Zavarisky, Ron Ruhl, and Dale Lindskog
A Novel Approach to DRM Systems
Franco Frattolillo, Federica Landolfi, and Fiammetta Marulli
Worm Path Identification Using Visualization System
Seiji Shibaguchi, Yuki Nakayama, and Ken-ichi Okada
A Simulation of Various Variable Hacker Populations

Norman Pendegraft and Mark Rounds
Code Obfuscation Using Pseudo-random Number Generators
John Aycock and Juan Manuel Gutierrez Cardena
Misuse Cases + Assets + Security Goals
Takao Okubo, Kenji Taguchi, and Nobukazu Yoshioka
Effects of Individual and Organization Based Beliefs and the Moderating Role of Work Experience on Insiders' Good Security Behaviors
Burcu Bulgurcu, Hasan Cavusoglu, and Izak Benbasat

D. Sessions and Papers in SocialCom-09

The 2009 IEEE International Conference on Social Computing (SocialCom-09)

Keynote: Network Analysis and Visualization for Understanding Social Computing (Chair: Alex Pentland)

Prof. Ben Shneiderman, *University of Maryland, USA*

Keynote: Social Computing Applications and Trends (Chair: Alex Pentland)

Dr. Fei-Yue Wang, *the Institute of Automation, CAS, China*

Session D11: Social Computing I (Chair: Justin Zhan)

Edge Anonymity in Social Network Graphs

Lijie Zhang and Weining Zhang

Guanxi in the Chinese Web

Valerie King, Louis Yu, and Yan Zhuang

Anomaly Detection in Dynamic Social Systems Using Weak Estimators

Justin Zhan, B. John Oommen, and Johanna Crisostomo

Structure of Neighborhoods in a Large Social Network

Alina Stoica and Christophe Prieur

Session D12: Social Computing II (Chair: Ben Shneiderman)

Deriving Expertise Profiles from Tags

Adriana Budura, Daniela Bourges-Waldegg, and James Riordan

Probabilistic Generative Models of the Social Annotation Process

Said Kashoob, James Caverlee, and Elham Khabiri

Detecting Communities from Bipartite Networks Based on Bipartite Modularities

Tsuyoshi Murata

Visually and Acoustically Exploring the High-Dimensional Space of Music

Lukas Bossard, Michael Kuhn, and Roger Wattenhofer

Session D13: Social Computing III (Chair: Jenny Preece)

A Semantic Imitation Model of Social Tag Choices

Wai-Tat Fu, Thomas G. Kannampallil, and Ruogu Kang

A Visual Interface for Social Information Filtering

John O'Donovan, Brynjar Gretarsson, Svetlin Bostandjiev, Tobias Hollerer, and Barry Smyth

Equilibria and Efficiency Loss in Games on Networks

Joshua R. Davis, Zachary Goldman, Jacob Hilty, Elizabeth N. Koch, David Liben-Nowell, Alexa Sharp, Tom Wexler, et al.

Ranking Comments on the Social Web

Chiao-Fang Hsu, Elham Khabiri, and James Caverlee

Session D14: Social Computing IV (Chair: Gholamali Shoja)

Structure of Heterogeneous Networks

Rumi Ghosh and Kristina Lerman

Online User Activities Discovery Based on Time Dependent Data

Dan Hong and Vincent Y. Shen

Socio-semantic Dynamics in a Blog Network

Jean-Philippe Cointet and Camille Roth

The Formation of Task-Oriented Groups: Exploring Combat Activities in Online Games

Yun Huang, Mengxiao Zhu, Jing Wang, Nishith Pathak, Cuihua Shen, Brian Keegan, Dmitri Williams, and Noshir Contractor

Session D15: Social Computing V (Chair: Yoshifumi Masunaga)

Incremental SVM Model for Spam Detection on Dynamic Email Social Networks

Chi-Yao Tseng and Ming-Syan Chen

Evaluating the Impact of Attacks in Collaborative Tagging Environments

Maryam Ramezani, J. J. Sandvig, Tom Schimoler, Jonathan Gemmell, Bamshad Mobasher, and Robin Burke

Community Computing: Comparisons between Rural and Urban Societies Using Mobile Phone Data

Nathan Eagle, Yves-Alexandre de Montjoye, and Luis M. A. Bettencourt

Social Synchrony: Predicting Mimicry of User Actions in Online Social Media

Munmun De Choudhury, Hari Sundaram, Ajita John, and Doree Duncan Seligmann

The 2009 International Symposium on Social Intelligence and Networking (SIN-09)

Session D21: Social Intelligence and Networking I (Chair: Huan Liu)

Representing Small Group Evolution

Whitman Richards and Nicholas Wormald

Private Buddy Search: Enabling Private Spatial Queries in Social Networks
Ali Khoshgozaran and Cyrus Shahabi
Multi-level Cellular Automata & Social Dynamics
Jan J. Koenderink and Whitman Richards
Extended Social Tags: Identity Tags Meet Social Networks
Sonia Lajmi, Johann Stan, Hakim Hacid, Elöd Egyed-Zsigmond, and Pierre Maret

Session D22: Social Intelligence and Networking II (Chair: Kai Fischbach)

Size Matters: Variation in Personal Network Size, Personality and Effect on Information Transmission
Yu-En Lu, Sam Roberts, Pietro Lio, Robin Dunbar, and Jon Crowcroft
TagRec: Leveraging Tagging Wisdom for Recommendation
Tom Chao Zhou, Hao Ma, Irwin King, and Michael R. Lyu
Development and Validation of an Agent-Based Simulation Model of Juvenile Delinquency
Tibor Bosse, Charlotte Gerritsen, Michel Klein, and Frank M. Weerman
Using Hierarchical Bayesian Models to Learn About Reputation
Philip Hendrix, Ya'akov Gal, and Avi Pfeffer
Web Science 2.0: Identifying Trends through Semantic Social Network Analysis
Peter A. Gloor, Jonas Krauss, Stefan Nann, Kai Fischbach, and Detlef Schoder

Session D23: Social Intelligence and Networking III (Chair: Wai-Tat Fu)

Social Awareness Concepts to Support Social Computing
Andry Rakotonirainy, Seng W. Loke, and Patricia Obst
An Agent-Based Approach to Modeling and Analysis of Safety Culture in Air Traffic
Alexei Sharpanskykh and Sybert Stroeve
Clustering Signature in Complex Social Networks
Ueli Peter and Tomas Hruz
Inferring the Maximum Likelihood Hierarchy in Social Networks
Arun S. Maiya and Tanya Y. Berger-Wolf
Is the Crowd's Wisdom Biased? A Quantitative Analysis of Three Online Communities
Vassilis Kostakos

Session D24: Social Intelligence and Networking IV (Chair: Muthucumaru Maheswaran)

Social Learning Applications in Resource Constrained Networks
Ali Saïdi, Mahesh V. Tripunitara, and Mojdeh Mohtashemi
Analysis of a Location-Based Social Network
Nan Li and Guanling Chen
Modeling User Perception of Interaction Opportunities for Effective Teamwork
Ece Kamar, Ya'akov Gal, and Barbara J. Grosz
Finding Cohesive Subgroups and Relevant Members in the Nokia Friend View Mobile Social Network
Alvin Chin
Capturing On-Line Social Network Link Dynamics Using Event-Driven Sampling
Dan Corlette and Frank Shipman III

Session D25: Social Intelligence and Networking V (Chair: Andry Rakotonirainy)

How Did You Get to Know That? A Traceable Word-of-Mouth Algorithm
Manuel Cebrián, Enrique Frías-Martínez, Heath Hohwald, Ruben Lara, and Nuria Oliver
A Second-Order Markov Random Walk Approach for Collaborative Filtering
Su Chen, Tiejian Luo, and Tingshao Zhu
Towards Demarcation and Modeling of Small Sub-Communities / Groups in P2P Social Networks
Georg Groh and Verena Rappel
Extracting Multi-facet Community Structure from Bipartite Networks
Kenta Suzuki and Ken Wakita

Session D26: Social Intelligence and Networking VI (Chair: Hao Wang)

The Use of Online Videos in the 2008 U.S. Congressional Elections
Eni Mustafaraj, Panagiotis Takis Metaxas, and Catherine Grevet
The Social Behaviors of Experts in Massive Multiplayer Online Role-Playing Games
David Huffaker, Jing (Annie) Wang, Jeffrey Treem, Muhammad A. Ahmad, Lindsay Fullerton, Marshall Scott Poole, et al.
First Steps to Netviz Nirvana: Evaluating Social Network Analysis with NodeXL
Elizabeth Marie Bonsignore, Cody Dunne, Dana Rotman, Marc Smith, Tony Capone, Derek L. Hansen, and Ben Shneiderman
Mining for Gold Farmers: Automatic Detection of Deviant Players in MMOGs
Muhammad Aurangzeb Ahmad, Brian Keegan, Jaideep Srivastava, Dmitri Williams, and Noshir Contractor

Session D27: Social Intelligence and Networking VII (Chair: Robert Kremer)

Surfing a Web of Trust: Reputation and Reciprocity on CouchSurfing.com
Debra Lauterbach, Hung Truong, Tanuj Shah, and Lada Adamic
Virtually There: Exploring Proximity and Homophily in a Virtual World

Yun Huang, Cuihua Shen, Dmitri Williams, and Noshir Contractor
The Altruistic Searcher
Barry Smyth, Maurice Coyle, and Peter Briggs
On the Design of Collective Applications
Jon Dron and Terry Anderson
Inferring Unobservable Inter-community Links in Large Social Networks
Heath Hohwald, Manuel Cebrián, Arturo Canales, Rubén Lara, and Nuria Oliver

Session D28: Social Intelligence and Networking VIII (Chair: Michael A. Stefanone)

Social Relationship Identification: An Example of Social Query
Christopher P. Diehl, Jaime Montemayor, and Mike Pekala
metaViz: Visualizing Computationally Identified Metaphors in Political Blogs
Eric P.S. Baumer, Jordan Sinclair, David Hubin, and Bill Tomlinson
Implementing Social Norms Using Policies
Robert Kremer
Usable Privacy Controls for Blogs
Michael Hart, Claude Castille, Rob Johnson, and Amanda Stent
Feedback Loops of Attention in Peer Production
Fang Wu, Dennis M. Wilkinson, and Bernardo A. Huberman
New Media Use in Context: Environmental Cues and Online Self-Disclosure via Weblogs
Michael A. Stefanone, Chyng-Yang Jang and Nathan Claes

Session D29: Social Intelligence and Networking IX (Chair: Noshir Contractor)

SpamClean: Towards Spam-Free Tagging Systems
Ennan Zhai, Huiping Sun, Sihan Qing, and Zhong Chen
Social Authentication Protocol for Mobile Phones
Bijan Soleymani and Muthucumaru Maheswaran
Modeling Ethno-religious Conflicts as Prisoner's Dilemma Game in Graphs
Lingzhi Luo, Nilanjan Chakraborty, and Katia Sycara

Session D2A: Social Intelligence and Networking X (Chair: Hikaru Yamamoto)

Whither the Experts? Social Affordances and the Cultivation of Experts in Community Q&A Systems
Howard T. Welsler, Eric Gleave, Vladimir Barash, Marc Smith, and Jessica Meckes
The Power of Grassroots Influentials: The Optimal Heterophily between Sender and Receiver
Hikaru Yamamoto and Naohiro Matsumura
A Model of Tacit Knowledge and Action
Ya'akov Gal, Rajesh Kasturirangan, Avi Pfeffer, and Whitman Richards
iKnow Where You Are
Kalyan Subbu, Ning Xu, and Ram Dantu
Incorporating Participant Reputation in Community-Driven Question Answering Systems
Liangjie Hong, Zaihan Yang, and Brian D. Davison
Churn Prediction in MMORPGs: A Social Influence Based Approach
Jaya Kawale, Aditya Pal, and Jaideep Srivastava

Session D2B: Social Intelligence and Networking XI (Chair: Whitman Richards)

Expertise Modeling and Recommendation in Online Question and Answer Forums
Suratna Budalakoti, David DeAngelis, and K. Suzanne Barber
Quantifying Utility and Trustworthiness for Advice Shared on Online Social Media
Sai T. Moturu, Jian Yang, and Huan Liu
A Language of Life: Characterizing People Using Cell Phone Tracks
Alexy Khrabrov and George Cybenko

The 2009 International Symposium on Social Computing Applications (SCA-09)

Session D31: Social Computing Applications I (Chair: Sean P. Goggins)

On the Synergy of Conflict and Collective Creativity in Open Innovation Socio-technical Ecologies
Levent Yilmaz
Investigating User Experience of Online Communities: The Influence of Community Type
Vivian Hsueh-Hua Chen and Henry Been-Lirn Duh
Enabling Video-Blogging without Relying on External Service-Providers
Justus Bross, Janosch Oppermann, and Christoph Meinel
Improving Interobserver Reliability by Artificial Intelligence Techniques in Behavioural Research
Arjen van Alphen, Tibor Bosse, Catholijn M. Jonker, and Francien Koeman

Session D32: Social Computing Applications II (Chair: Tiejian Luo)

Health Insurance Reform in an Experimental Market: Human Subjects, Agents Combined to Study Complex Regulatory Reform

Proposals

Stephen J. Rassenti and Carl A. Johnston

Social Interaction History: A Framework for Supporting Exploration of Social Information Spaces

Indratmo and Julita Vassileva

Social Network Analysis and Geotemporal Reasoning in a Web 3.0 World

Jans Aasman

Emergence of Social Norms in Complex Networks

Yu Zhang and Jason Leezer

Local Semi-linear Regression for River Runoff Forecasting

Fan Min and Xindong Wu

Session D33: Social Computing Applications III (Chair: Yu Zhang)

Centrality and Power among Website Users: A Social Network Analysis Application

G. Michael McGrath

Introducing Electronic Child Records, Balancing Personal Interests, System Performance, and Social Values

Guido van Heck, Itamar Sharon, Paulus Kampert, and Jan van den Berg

Towards an Introduction to Collaborative Filtering

Jia Zhou and Tiejian Luo

Collaborative Mining in Multiple Social Networks Data for Criminal Group Discovery

Amin Milani Fard and Martin Ester

Web Page Classification Using Social Tags

Sadegh Aliakbary, Hassan Abolhassani, Hossein Rahmani, and Behrooz Nobakht

Session D34: Social Computing Applications IV (Chair: Sangki (Steve) Han)

Davis Social Links or: How I Learned to Stop Worrying and Love the Net

Matt Spear, Xiaoming Lu, and S. Felix Wu

A Stigmergy Approach for Open Source Software Developer Community Simulation

Xiaohui Cui, Justin Beaver, Laura Pullum, Jim Treadwell, and Thomas Potok

Personality in Social Group Dynamics

Rui Prada, Samuel Ma, and Maria Augusta Nunes

Lending Behavior and Community Structure in an Online Peer-to-peer Economic Network

Katherine Ann Krumme and Sergio Herrero

Temporal Issue Trend Identifications in Blogs

Il-Chul Moon, Young-Min Kim, Hyun-Jong Lee, and Alice H. Oh

Session D35: Social Computing Applications V (Chair: Dauw-Song Zhu)

Gaming on and off the Social Graph: The Social Structure of Facebook Games

Ben Kirman, Shaun Lawson, and Conor Linehan

The Socio-cultural Factors Influencing Online Female Consumers in Saudi Arabia

Khulood Rambo, Kecheng Liu, and Keiichi Nakata

Experience Search: Accessing the Emergent Knowledge from Annotated Blog Postings

Yong-Jin Han, Jeong-Woo Son, Hyun-Jae Song, Hee-Geun Yoon, Jae-Ahn Lee, Sang-Do Lee, Kye-Sung Kim, et al.

Adaptive Tourism Modeling and Socialization System

Bruno Coelho, Constantino Martins, and Ana Almeida

Open Editing Algorithm: A Collaborative News Promotion Algorithm Based on Users' Voting History

Joonseong Ko, Kanghak Kim, Ohyeon Kweon, Jongwook Kim, Young-rin Kim, and Sangki "Steve" Han

Session D36: Social Computing Applications VI (Chair: Levent Yilmaz)

Designing Social Computing using Traditions of Symbolism, Personalization, and Gift Culture

Yin He and Thecla Schiphorst

Social Ability in Online Groups: Representing the Quality of Interactions in Social Computing Environments

Sean P. Goggins, James Laffey, and Krista Galyen

A Study of Information Diffusion over a Realistic Social Network Model

Andrea Apolloni, Karthik Channakeshava, Lisa Durbeck, Maleq Khan, Chris Kuhlman, Bryan Lewis, and Samarth Swarup

Modeling Human, Social, Cultural or Behavioral Events for Real World Applications: Results and Implications from the State Stability Project

Anne Russell and Mark Clark

Session D37: Social Computing Applications VII (Chair: Dale Ganley)

System Theoretic Formalization of Social Group Processes and Optimal Evidence-Indicator Discovery

Payam Saisan, Anne Russell, Mark Clark, and Stephen Krotosky

Co-located Many-player Gaming on Large High-resolution Displays

David Machaj, Christopher Andrews, and Chris North

Analyzing Enterprise Social Media Networks

Marc Smith, Derek L. Hansen, and Eric Gleave

Mining and Analyzing Multirelational Social Networks

Victor Stroele, Jonice Oliveira, Geraldo Zimbrão, and Jano M. Souza

Development of a Meeting Browser towards Supporting Public Involvement

Shun Shiramatsu, Tadachika Ozono, Toramatsu Shintani, Kazunori Komatani, Tetsuya Ogata, Toru Takahashi, et al.

Session D38: Social Computing Applications VIII (Chair: Vivian Hsueh-Hua Chen)

A Survey of Human Computation Systems

Man-Ching Yuen, Ling-Jyh Chen, and Irwin King

Tag Sense Disambiguation for Clarifying the Vocabulary of Social Tags

Kangpyo Lee, Hyunwoo Kim, Hyopil Shin, and Hyoung-Joo Kim

Predicting Interests of People on Online Social Networks

Apoorv Agarwal, Owen Rambow, and Nandini Bhardwaj

Will Networking Nerds Pay for Stuff That Matters? The Relationship between Social Networks and Subscriptions in Virtual Communities

Melanie Bernier and Dale E. Ganley

Names of Our Lives

Benjamin M. Gross

Session D39: Social Computing Applications IX (Chair: Dauw-Song Zhu)

Using Qtag to Extract Dominant Public Opinion in Very Large-Scale Conversation

Sung Eob Lee, Taeksoo Chun, and "Steve" Sangki Han

Study on Collective Memory in the Blogosphere

Young Sik Kim, Kibeom Lee, and "Steve" Sangki Han

Personal Management of Social Networks Data

Mauro San Martin and Claudio Gutierrez

The Effect of Trust and Perceived Risk on Consumers' Online Purchase Intention

Dauw-Song Zhu, Gwendolyn Sneed O'Neal, Zui-Chih Lee, and Yen-Hsun Chen

The 2009 International Workshop on Social Networks Mining and Analysis for Business Applications (SNMABA-09)

Session D41: Social Networks Mining and Analysis for Business Applications I (Chair: I-Hsien Ting)

Ego-centric Network Sampling in Viral Marketing Applications

Huaiyu (Harry) Ma, Steven Gustafson, Abha Moitra, and David Bracewell

Integration of User Experiences to Advancement of B2B-Software-on-Demand Systems

Eva-Maria Schwartz

Application of New A priori Algorithm MDNC to Exchange Traded Fund

Huang Chiung-Fen, Tsai Wen-Chih, and Chen An-Pin

Enhancing Airline Customer Relationship Management Data by Inferring Ties between Passengers

Michael Farrugia and Aaron Quigley

Session D42: Social Networks Mining and Analysis for Business Applications II (Chair: I-Hsien Ting)

The Benefits of Synchronized Genuine Smiles in Face-to-face Service Encounters

Kyunghee Kim, Micah Eckhardt, Nandi Bugg, and Rosalind W. Picard

A Proposal of Discovering User Interest by Support Vector Machine and Decision Tree on Document Classification

Loc Nguyen

Analyzing Multi-source Social Data for Extracting and Mining Social Networks

I-Hsien Ting, Hui-Ju Wu, and Pei-Shan Chang

Session D43: Social Networks Mining and Analysis for Business Applications III (Chair: I-Hsien Ting)

A Study of Co-relational Personalities of the Social Network in Organization

Wei-Lun Chang and Sian-Ting Lin

Information Retrieval in Wikis Using an Ontology

Carlos Miguel Tobar, Alessandro Santos Germer, Juan Manuel Adán-Coello, and Ricardo Luís de Freitas

The Effect of Network Position and Relationship Quality on Organizational Performance-The ABW Family

Ting-Lin Lee and Chih-Wei Lin

The 2009 International Workshop on Social Behavior in Music (SBM-09)

Session D51: Social Behavior in Music I (Chair: Gualtiero Volpe)

Toward a Real-Time Automated Measure of Empathy and Dominance

Giovanna Varni, Antonio Camurri, Paolo Coletta, and Gualtiero Volpe

Concepts, Technology, and Assessment of the Social Music Game 'Sync-in-Team'

Marc Leman, Michiel Demey, Micheline Lesaffre, Leon van Noorden, and Dirk Moelants

Reinforcement Learning of Listener Response for Mood Classification of Audio

Jack Stockholm and Philippe Pasquier

Session D52: Social Behavior in Music II (Chair: Giovanna Varni)

Dynamic Social Interaction in a Collective Mobile Music Performance

Koray Tahirolu

NetBeat and Net4Tet – networked Performance Instruments for Electroacoustic Music Students

Arne Eigenfeldt

Demo from the FP7 EU-ICT SAME Project

The 2009 International Workshop on Social Computing in Education (WSCE-09)

Session D61: Social Computing in Education I (Chair: Irwin King)

Invited Talk: Social Media Tools and Platforms in Learning Environments - Present and Future

Bebo White, Stanford Linear Accelerator Center (SLAC), USA

Let's Meet: Integrating Social and Learning Worlds

Melody Siadaty, Dragan Gasevic, and Marek Hatala

SCI: Towards a Social Collaborative Integrated Development Environment

Hani Bani-Salameh, Clinton Jeffery, and Jafar Al-Gharaibeh

Sharing Application Sessions for Peer-to-Peer Learning

Oscar Ardaiz, Luis Manuel Diaz de Cerio, Jose Andres Del Campo, and Ruben Mondejar

Session D62: Social Computing in Education II (Chair: Irwin King)

Web2.0 Tools to Support the Instructional Method “Thinking Actively in a Creative Environment”

Oscar Ardaiz Villanueva, Xabier Nicuesa Chacón, Oscar Brene Artazcoz, María Luisa Sanz de Acedo Lizarraga, et al.

Research for Collaborative Knowledge Management Based on Semantic Wiki Technology

Junjie Wang, Qian Mo, and Dongxia Mei

Online Presence in Adaptive Learning on the Social Semantic Web

Jelena Jovanović, Dragan Gašević, Milan Stanković, Zoran Jeremić, and Melody Siadaty

Session D63: Social Computing in Education III (Chair: Irwin King)

Designing to Attract Participation in a Niche Community for Women in Science & Engineering

Zina Sahib and Julita Vassileva

Design of a Platform of Popular Science Education Based on Social Computing

Fang Wang and Qian Mo

Spurring Design Thinking through Educational Weblogging

Justus Bross, Ahmet Emre Acar, Patrick Schilf, and Christoph Meinel

A Decision Support System for Institutional Research Management in Higher Education: Data Mining to Determine Research Focus, Intensity and Synergy

Kobus Ehlers, Malan Joubert, Johann Kinghorn, and Arnold van Zyl

Approach for Name Ambiguity Problem Using a Multiple-layer Clustering

Wenrong Jiang, Anbao Wang, Cuihong Wu, Jian Chen, and Jihong Yan

An Empirical Study of Research Collaboration Using Social Network Analysis

Yu-Ling Luo and Chia-Hao Hsu

The 2009 International Workshop on Social Computing with Mobile Phones & Sensors: Modeling, Sensing and Sharing (SCMPS-09)

Session D71: Social Computing with Mobile Phones and Sensors I (Chair: Marta Gonzales)

Invited Talk on Workshop on Social Computing with Mobile Phones & Sensors (I)

Ambulation: A Tool for Monitoring Mobility Patterns over Time Using Mobile Phones

Jason Ryder, Brent Longstaff, Sasank Reddy, and Deborah Estrin

The Importance of Data Collection for Modelling Contact Networks

Eiko Yoneki

Session D72: Social Computing with Mobile Phones and Sensors II (Chair: Anmol Madan)

Invited Talk on Workshop on Social Computing with Mobile Phones & Sensors (II)

Investigating Bimodal Clustering in Human Mobility

James P. Bagrow and Tal Koren

Mining Mobility Behavior from Trajectory Data

Fosca Giannotti, Mirco Nanni, Dino Pedreschi, Chiara Renso, and Roberto Trasarti

The Impact of Human Mobility on Spatial Disease Dynamics

V.V. Belik, T. Geisel, and D. Brockmann

Session D73: Social Computing with Mobile Phones and Sensors II (Chair: Taemie Kim)

Invited Talk on Workshop on Social Computing with Mobile Phones & Sensors (III)

Scaling Behaviors in the Communication Network between Cities

Gautier Krings, Francesco Calabrese, Carlo Ratti, and Vincent D Blondel

Decentralized Detection of Group Formations from Wearable Acceleration Sensors

Martin Wirz, Daniel Roggen, and Gerhard Tr öster

Touch Me Wear: Getting Physical with Social Networks

Aaron Beach, Baishakhi Raz, and Leah Buechley

Sensor-based Feedback Systems in Organizational Computing

Taemie Kim, Daniel Olguin Olguin, Benjamin N. Waber, and Alex (Sandy) Pentland

The 2009 International Workshop on Security and Privacy in Online Social Networking (SPOSN-09)

Session D81: Security and Privacy in Online Social Networking I (Chair: Heather R. Lipford)

All Friends Are Not Created Equal: An Interaction Intensity Based Approach to Privacy in Online Social Networks

Lerone Banks and Shyhtsun Felix Wu

Privacy in Online Social Networking at Workplace

Yang Wang and Alfred Kobsa

Towards Enabling Web 2.0 Content Sharing Beyond Walled Gardens

San-Tsai Sun, Kirstie Hawkey, and Konstantin Beznosov

Session D82: Security and Privacy in Online Social Networking II (Chair: Yang Wang)

Visible Flows: Contextual Integrity and the Design of Privacy Mechanisms on Social Network Sites

Heather Richter Lipford, Gordon Hull, Celine Latulipe, Andrew Besmer, and Jason Watson

Examining the Shifting Nature of Privacy, Identities, and Impression Management with Web 2.0

Kirstie Hawkey

Trust Inference in Complex Trust-oriented Social Networks

Guanfeng Liu, Yan Wang, and Mehmet Orgun

Multiple Identities on Social Networks: Issues of Privacy and Authenticity

Ananda Mitra

Session D83: Security and Privacy in Online Social Networking III (Chair: Kirstie Hawkey)

Security and Trust through Electronic Social Network-Based Interactions

Patirk Bichsel, Samuel Müller, Franz-Stefan Preiss, Dieter Sommer, and Mario Verdicchio

Witness-Based Collusion and Trust-Aware Societies

Amirali Salehi-Abari and Tony White

Enabling Privacy as a Fundamental Construct for Social Networks

E. Michael Maximilien, Tyrone Grandison, Kun Liu, Tony Sun, Dwayne Richardson, and Sherry Guo

The 2009 International Workshop on Social Mobile Web (SMW-09)

Session D91: Social Mobile Web I (Chair: Noshir Contractor)

Time Critical Content Delivery Using Predictable Patterns in Mobile Social Networks

Fawad Nazir, Jianhua Ma, and Aruna Seneviratne

Ubiquitous Monitoring and Human Behaviour in Intelligent Pervasive Spaces

Stuart Moran and Keiichi Nakata

Quantifying Reciprocity in Social Networks

Huiqi Zhang, Ram Dantu, and Joao Cangussu

Session D92: Social Mobile Web II (Chair: Josep M. Pujol)

Solutions to Security and Privacy Issues in Mobile Social Networking

Aaron Beach, Mike Gartrell, and Richard Han

Information Technology Capabilities for Digital Social Networks

Camille Grange and Izak Benbasat

Has Anyone Seen My Goose? Social Network Services in Developing Regions

Narseo Vallina-Rodriguez, Pan Hui, and Jon Crowcroft

Session D93: Social Mobile Web III (Chair: Karen Church)

The Geolocation of Web Logs from Textual Clues

Clayton Fink, Christine Piatko, James Mayfield, Danielle Chou, Tim Finin, and Justin Martineau

The Circles of Latitude: Adoption and Usage of Location Tracking in Online Social Networking

Xinru Page and Alfred Kobsa

Automated Murmurs: The Social Mobile Tourist Application

Jill Freyne, Adam J. Brennan, Barry Smyth, Daragh Byrne, Alan F. Smeaton, and Garth J.F. Jones

Where Information Searches for You: The Visible Past Ubiquitous Knowledge Environment for Digital Humanities

Sorin Adam Matei, Eric Wernert, and Travis Faas

Session D94: Social Mobile Web IV (Chair: Barry Smith)

Information Flow and Search in Unstructured Keyword Based Social Networks
Ankush Garg, Prantik Bhattacharyya, Charles U. Martel, and S. Felix Wu
Social Tagging in Query Expansion: A New Way for Personalized Web Search
Claudio Biancalana and Alessandro Micarelli
Panel for Social Mobile Web

The 2009 International Workshop on Leveraging Social Patterns for Privacy, Security, and Network Architectures (SP4SPNA-09)

Session DA1: Leveraging Social Patterns to Improve Network Performance (Chair: Kwan Hong Lee)

Real World Routing Using Virtual World Information
Pan Hui and Nishanth Sastry
Diverse Routing: Exploiting Social Behavior for Routing in Delay-Tolerant Networks
Tong Zhou, Romit Roy Choudhury, and Krishnendu Chakrabarty
Delivery Rate and Routing Overhead Analysis with Salvage in Collaborative On-Line Game Playing
Miao Wang and Xiling Luo

Session DA2: Interleaving Human Dynamics and Network Dynamics (Chair: Yaniv Altshuler)

Using Converging Technology to Bring Social Networking to Commerce
Colin Pattinson
Social Area Networks: Data Networking of the People, by the People, for the People
Nadav Aharony, David P. Reed, and Andrew Lippman
Invited Talk on Reality Mining and the New Deal on Data
Alex "Sandy" Pentland
Identifying Connectors and Communities: Understanding Their Impacts on the Performance of a DTN Publish/Subscribe System
M. Chuah and Alexandra Coman
Role of Game models in Social Networks
Y. B Reddy

Session DA3: Security and Privacy Applications of Social Information (Chair: Nadav Aharony)

Invited Talk on Detection and Prevention of Malicious Code Spread in Social Networks
Yuval Elovici
Social Networks' XSS Worms
Mohammad Reza Faghani and Hossein Saidi
Socially Enhanced Network Address Translation
Alexis Malozemoff and Muthucumaru Maheswaran
A Network-Aware Distributed Membership Protocol for Collaborative Defense
David Zage, Carl Livadas, and Eve M. Schooler

Session DA4: Using and Collecting Social Information below the Application Level (Chair: Nadav Aharony)

Workshop Summary, Open Issues, and Future Directions

The 2009 International Workshop on Social Intelligence in Applied Gaming (SIAG-09)

Session DB1: Social Intelligence in Applied Gaming I (Chair: Antonio P. Sanfilippo)

Invited Talk on Social Intelligence in Applied Gaming
Shanna Tellerman

Session DB2: Model Validation and Evaluation in Social Gaming (Chair: Antonio P. Sanfilippo)

Validation of Sociocultural Models and Meta-Models via Serious Games
K. Brock Stitts, Colleen L. Phillips, and Norman D. Geddes
Inferring Player Rating from Performance Data in Massively Multiplayer Online Role-Playing Games (MMORPGs)
Kyong Jin Shim, Muhammad Aurangzeb Ahmad, Nishith Pathak, and Jaideep Srivastava

Session DB3: Research Issues in Analytical Gaming (Chair: Scott Butner)

ASC: A Proposed Architecture for Computing a Social Capital Gaming Metric
Colleen L. Phillips, K. Brock Stitts, and Norman D. Geddes
Avatars in Analytical Gaming
Andrew J. Cowell and Amanda K. Cowell
Mathematical Modeling of Social Games
Kam Tong Chan, Irwin King, and Man-Ching Yue

Session DB4: Social Intelligence in Applied Gaming II (Chair: Scott Butner)

Application and Evaluation of Analytic Gaming
Roderick M. Riensche, Louis M. Martucci, Jean C. Scholtz, and Mark A. Whiting

Satisficing the Masses: Applying Game Theory to Large-Scale, Democratic Decision Problems

Kshanti A. Greene, Joseph M. Kniss, George F. Luger, and Carl R. Stern

Gaming to Predict Human Responses to Mass Casualty Events - An Approach for Quick Look Tools for Pandemic Influenza

Robert T. Brigantic, George A. Muller, Aimee E. Taylor, and Anthony F. Papatyi

Constructing a Virtual World as a Research Tool: Lessons Learned from the First Iteration in the Development of Greenland

Travis L. Ross

Session DB5: Panel—R&D and Funding Issues in Applied Gaming (Chair: Antonio Sanfilippo)

Panel for EUC-09

Topic: *Vision and Challenges for Embedded and Ubiquitous Computing*

Chair:

Marco Avvenuti, University of Pisa, Italy

Panelists:

Jianhua Ma, Hosei University, Japan

Jingling Xue, University of New South Wales, Australia

Victor Leung, University of British Columbia, Canada

Pao-Ann Hsiung, National Chung Cheng University, Taiwan

Minyi Guo, Shanghai Jiaotong University, China

Stephen S. Yau, Arizona State University, USA

Wang Yi, Uppsala University, Sweden

Victor Bahl, Microsoft Research Redmond, USA

Panel for SocialCom-09

Topic: *Promoting National Initiatives for Social Networking: Research Agendas for Computing and Information Scientists*

Chair:

Jennifer Preece, University of Maryland, USA

Panelists:

Kevin Grandia, Hoggan and Associates, Canada

Ben Shneiderman, University of Maryland, USA

Sandy Pentland, MIT, USA

Jennifer Preece, University of Maryland, USA

Title: *Community Detection and Behavior Prediction for Social Computing*

Presenters

Huan Liu, Lei Tang, Nitin Agarwal, Arizona State University, USA

Abstract

The objective of this tutorial is to offer a comprehensive overview of challenges and techniques of community discovery in social media, and its application for collective behavior prediction and influence study. Social media emerges with the popularity of Web 2.0 and social networking sites. It facilitates people to express their thoughts, voice their opinions, and connect to each other anytime and anywhere. Social media also provides an open platform such that like-minded people form virtual communities. Finding out these groups is one of the basic tasks in traditional social network analysis. The network in social media is normally in a very large scale, posing many new challenges that need to be addressed in social computing. This tutorial will cover state-of-the-art techniques to community discovery in social media. We will then discuss its applications to unique social computing tasks related to communities including collective behavior prediction and influence study.

Biographies

Huan Liu is a professor of Computer Science and Engineering at Arizona State University. He received his Bachelor of Engineering from Shanghai Jiao Tong University and Ph.D. from University of Southern California, researched at Telecom Research Labs in Australia, and taught at National University of Singapore before he joined ASU. He has been recognized for excellence in teaching and research in CSE, ASU. His research interests are in data/web mining, machine learning, social computing, and artificial intelligence, investigating problems that arise in many real-world applications with high-dimensional data of disparate forms such as social media, modeling group interaction, text categorization, biomarker identification, and text/web mining. His research has been sponsored by NSF, NASA, AFOSR, and ONR, among others. His well-cited publications include books, book chapters, encyclopedia entries as well as conference and journal papers. He serves on journal editorial boards and numerous conference program committees, and is a founding organizer of the International Workshop Series on Social Computing, Behavioral Modeling, and Prediction (<http://sbp.asu.edu/>) in Phoenix, AZ (SBP'08 and SBP'09). His professional memberships include AAAI, ACM, ASEE, and IEEE.

Nitin Agarwal is a professor of Information Science at University of Arkansas at Little Rock. He received his Bachelors of Technology in Information Technology from Indian Institute of Information Technology, India, and Ph.D. in Computer Science from Arizona State University. He is one of the founding members of the Social Computing group in the Data Mining and Machine Learning Lab at ASU. His primary research interests include Social Computing, Knowledge Extraction in Social Media, Modeling Influence, Collective Wisdom, Familiar Strangers, and Model Evaluation. His work has resulted in publications in various prestigious forums including book chapters, encyclopedia entries, conferences and journals. His presentation at Web Search and Data Mining (WSDM 2008) conference on "Identifying the Influential Bloggers in a Community" recorded the highest number of hits (over 700) among all the talks at the conference (http://videlectures.net/wsdm08_agarwal_iib/). He co-presented a tutorial at the premiere data mining conference KDD 2008 on "Blogsphere: Research Issues, Applications, and Tools" (http://videlectures.net/kdd08_liu_briat/). He is a co-guest editor of a special issue on "Social Computing in Blogsphere" for IEEE Internet Computing magazine appearing (2010).

Lei Tang is a Ph.D Candidate and Research Associate in Computer Science and Engineering at Arizona State University. He received his Bachelor of Science from Fudan University, China before he joined ASU. He is one of the founding members of the Social Computing group in the Data Mining and Machine Learning Lab at ASU. His primary research interests include social computing, web mining, relational learning, network evolution and group profiling, especially research problems arising in real-world applications with social media. He has published in reputed conferences, book chapters, and journals like KDD, CIKM, ICDM, ICML, IJCAI, AAAI, SDM, WSDM, WWW, TKDD, etc. He was awarded ASU GPSA Research Grant, SDM Doctoral Student Forum Fellowship, Student Travel Awards, and Scholarships in various conferences.

Title: *The Social Science Approach to Web Mining*

Presenters:

Sun-Ki Chai, David Chin, Scott Robertson, Kar-Hai Chu, Aaron Herres, University of Hawaii, USA

Abstract

While social computing has adopted some of the analytical techniques used by social scientists in its investigations, many computer scientists and engineers may be unaware of the full range of models and methods available and their appropriate mode of usage. This tutorial seeks to provide a broad overview within the context of relevant to web mining. We first provide a survey including social science content analysis methods, sociological social network models, and models of culture and action, as well as their applications to web mining. We then demonstrate some of their applications in the ongoing development of a social theory-driven web crawler.

Biographies

Sun-Ki Chai (B.S. Mathematical Sciences, M.S. Computer Science, Ph.D. Political Science, all Stanford University) is Associate Professor at the Department of Sociology, University of Hawaii. His theoretical interests revolve around integrating models of culture with predictive models of action. His primary substantive focus areas include cross-national studies of ethnic identity and conflict, as well as studies on the creation of economic and political institutions in East Asian development. He is the author of *Choosing an Identity: A General Model of Preference and Belief Formation* (University of Michigan Press, 2001), and co-editor of *Culture and Social Theory* (Transaction Publishers, 1998). His more recent work focuses on integrating social sciences theories and methods more rigorously into computational applications, particularly in agent-based simulation and web crawling.

David N. Chin is a Professor of Information and Computer Sciences at the University of Hawaii. He received his B.S. from M.I.T. and his Ph.D. from U.C. Berkeley where he developed UC, the UNIX Consultant, an intelligent agent that answers questions about the UNIX operating system and infers a model of the user's knowledge of UNIX from the interaction. David is an internationally recognized expert in the field of user modeling. He has served on the editorial board of the international journal, *User Modeling and User-Adapted Interaction* since its inception in 1990 and has guest edited six special issues including two on empirical evaluation. He was the program and local arrangements chair of the 2nd International Conference on User Modeling in 1990 and the general chair of the 5th International Conference on User Modeling in 1996, and a program committee member of the 4th, 7th-10th Conferences. Dr. Chin has been the PI or co-PI on 20 grants/contracts totaling \$3.9 million. He is currently serving as his department's Associate Chair and has previously served as Vice-Chair (2006-7) and then Chair (2007-8) of the University of Hawaii at Manoa Faculty Senate.

Scott Robertson is an Associate Professor in the Information and Computer Sciences Department at the University of Hawaii. He conducts research in the area of human-computer interaction (HCI), specifically digital government and civic informatics. He has been an invited participant on e-voting workshops for the National Academy of Sciences and the American Association for the Advancement of Science. Dr. Robertson is a Senior member of the Association for Computing Machinery and a Fellow of the American Psychological Society. He serves as an Associate Editor for the ACM journal "Transactions on Human-Computer Interaction" and as Special Editor for the Human Sciences for the journal "Interacting with Computers." He is the principle investigator for a National Science Foundation project entitled "Digital Deliberation: Searching and Deciding How to Vote." Dr. Robertson is involved in interface development and HCI-related issues for the Cultural Change and Political Violence project at the University of Hawaii.

Kar-Hai Chu is a PhD candidate in the Communication and Information Sciences program at the University of Hawaii at Manoa. He has previously received a B.S. in Computer Science at Johns Hopkins University and M.S. in Computer Science at Columbia University. He has worked in both industry and academic settings on projects including e-commerce development, education and assessment technology, and ubiquitous wireless applications. His current research interests are in socio-technical systems and social network analysis.

Aaron Herres is a Master student in the Information and Computer Science department of the University of Hawaii. He received his undergraduate degree from the University of Puget Sound, and has worked in the industry as a consultant for Microsoft at Avanade. At UH, Aaron previously worked for the Laboratory for Interactive Learning Technology, working on mobile augmented reality applications.

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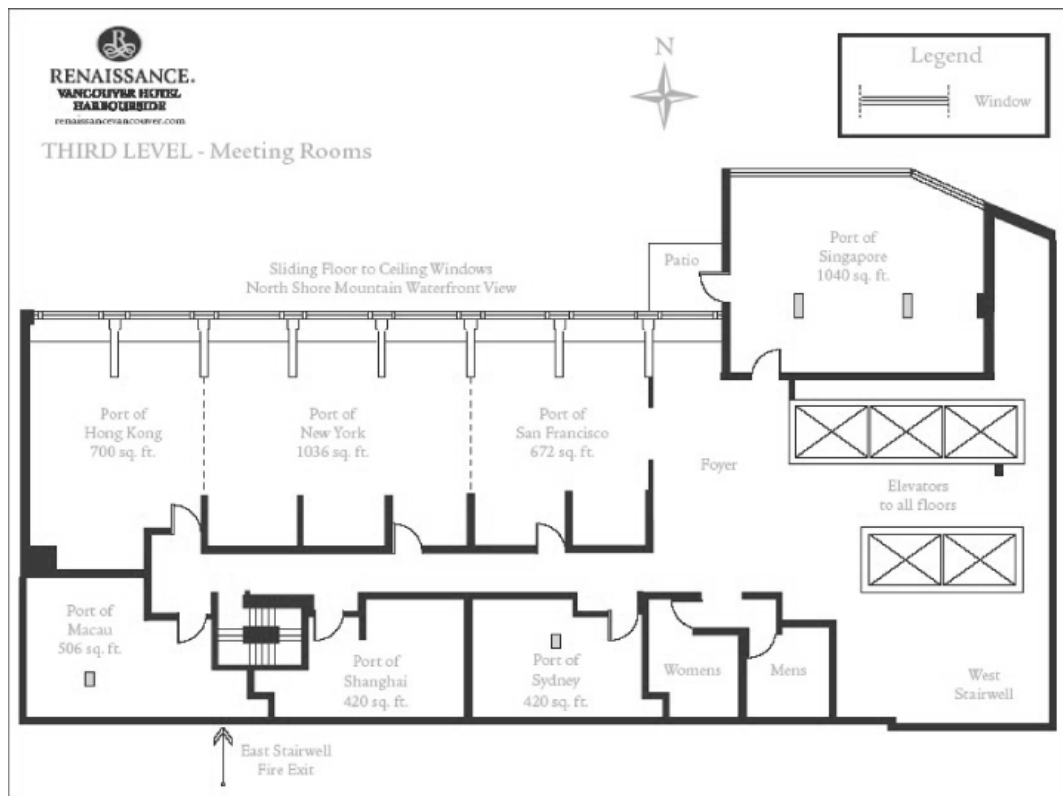
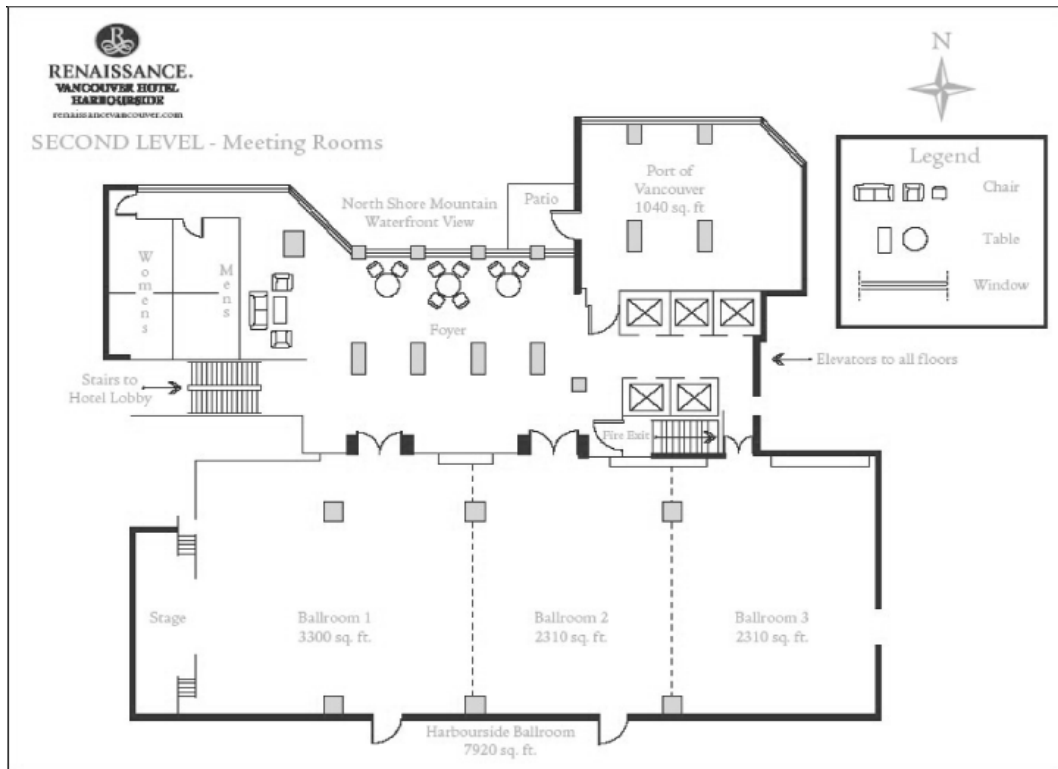
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Floorplan of Confernece Venue



Map of Vancouver and Drive Directions

