



# ARES 2008

The Third International Conference on  
Availability, Reliability and Security



# CISIS 2008

The Second International Conference on  
Complex, Intelligent and  
Software Intensive Systems

## Programme Guide



March 4<sup>th</sup> - March 7<sup>th</sup>, 2008  
Technical University of Catalonia  
Barcelona, Spain  
<http://www.ares-conference.eu>  
<http://www.cisis-conference.eu>

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# MESSAGE FROM THE ARES-2008 ORGANIZERS

The Third International Conference on Availability, Reliability and Security ("ARES 2008 – The International Dependability Conference") will bring together researchers and practitioners in the area of dependability. ARES 2008 will highlight the various aspects of dependability - with special focus on the crucial linkage between availability, reliability and security.

ARES aims at a full and detailed discussion of the research issues of dependability as an integrative concept that covers amongst others availability, safety, confidentiality, integrity, maintainability and security in the different fields of applications.

ARES will emphasize the interplay between foundations and practical issues of dependability in emerging areas such as e-government, m-government, location-based applications, ubiquitous computing, autonomous computing, chances of grid computing etc.

ARES is devoted to the critical examination and research challenges of the various aspects of Dependable Computing and the definition of a future road map.

Proceedings of the ARES conference will be published by IEEE Computer Society Press.

This year's keynote speaker will be Prof. Ravi Sandhu (Executive Director, Chief Scientist and Founder, Institute for Cyber-Security Research (ICSR) and Lutcher Brown Endowed Chair in Cyber-Security), Prof. Günther Pernul (Department of Information Systems, University of Regensburg) and Dr. Vijay Atluri (Management Science and Information Systems Department, Research Director of the Center for Information Management, Integration and Connectivity (CIMIC), Rutgers University)

Many thanks to the following sponsors and partners for their contribution to ARES 2008:



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### **International Workshop on Frontiers in Availability, Reliability and Security (FARES)**

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A Min Tjoa, Vienna University of Technology, Austria

#### **Programme Committee Members:**

Vladimir Marik, Czech Technical University, Czech Republic  
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### **Workshop on Privacy and Security by means of Artificial Intelligence (PSAI)**

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Jill Slay, University of South Australia

# ARES 2008 & ARES WORKSHOP PROGRAMME

**Tuesday, March 4, 2008**

9:00 – 10:30 Single Session

**Session A1: # Welcome and Opening Ceremony**

**Keynote Günther Pernul: Infrastructure Support for Authorization, Access Control and Privilege Management**

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

**Session B2: # Full: Applications**

**Chair: Markus Aleksey**

1. Securing Telehealth Applications in a Web-Based e-Health Portal  
*Qian Liu, Shuo Lu, Yuan Hong , Lingyu Wang, Rachida Dssouli*
2. Multi-Level Reputation-Based Greylisting  
*Wilfried Gansterer, Andreas Janecek, Ashwin Kumar*
3. Hardening XDS-based architectures  
*Kim Wuyts, Riccardo Scandariato, Geert Claeys, Wouter Joosen*

**Session C2: # Short: Applications**

**Chair: Edgar Weippl**

1. CERTILOC: Implementation of a spatial-temporal certification service compatible with several localization technologies  
*José María de Fuentes García-Romero de Tejada, Ana Isabel González-Tablas Ferreres, Arturo Ribagorda Garnacho*
2. Extending Mixed Serialisation Graphs to Replicated Environments  
*Josep M. Bernabé-Gisbert, Francesc D. Muñoz-Escóï*
3. Towards Secure E-Commerce Based on Virtualization and Attestation Techniques  
*Frederic Stumpf, Claudia Eckert, Shane Balfe*
4. Fuzzy Belief-Based Supervision  
*Alexandre Vorobiev, Rudolph Seviora*

**Session D2: # Full: Database**

**Chair: Joaquim Gabarro**

1. Towards Comprehensive Requirement Analysis for Data Warehouses: Considering Security Requirements  
*Emilio Soler, Veronika Stefanov, Jose-Norberto Mazon, Juan Trujillo, Eduardo Fernandez-Medina, Mario Piattini*
2. A New Scheme for Distributed Density Estimation Based Privacy-Preserving Clustering  
*Chunhua Su, Jianying Zhou, Feng Bao, Tsuyoshi Takagi, Kouichi Sakurai*
3. A Database Replication Protocol Where Multicast Writesets Are Always Committed  
*José Ramón Juárez-Rodríguez, Enrique Armendáriz-Iñigo, José Ramón González de Mendívil, Francesc Daniel Muñoz-Escóï*

**Session E2: # FARES: Misc**

**Chair: Andreas Ekelhart**

1. Anti-DDoS Virtualized Operating System  
*Sanjam Garg, Huzur Saran*
2. A Case for High Availability in a Virtualized Environment(HAVEN)  
*Erin Farr, Richard Harper, Lisa Spainhower, Jimi Xenidis*

**Session F2: # WPA**

**Chair: Christian Schläger**

1. Clustering Oriented Architectures in Medical Sensor Environments  
*Eleni Klaoudatou, Elisavet Konstantinou, Georgios Kambourakis, Stefanos Gritzalis*
2. An Initial Model and a Discussion of Access Control in Patient Controlled Health Records  
*Lillian Røstad*
3. Secure Team-Based EPR Access Acquisition in Wireless Networks  
*Sigurd Eskeland, Vladimir Oleshchuk*

**Session G2: # PSAI**

1. A critique of k-anonymity and some of its enhancements  
*Josep Domingo-Ferrer, Vicenc Torra*
2. Representation and reasoning on ORBAC:Description Logic with Defaults and Exceptions Approach  
*Boustia Narhimene, Mokhtari Aicha*
3. Bayesian Additive Regression Trees-Based Spam Detection for Enhanced Email Privacy  
*Saeed Abu-Nimeh, Dario Nappa, Xinlei Wang, Suku Nair*

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

**Session B3: # Full: Misc**

**Chair:** Jill Slay

1. Finding Evidence of Antedating in Digital Investigations  
*Svein Yngvar Willassen*
2. Economic and Security Aspects of the Appliance of a Threshold Scheme in e-Health  
*Bernhard Riedl, Veronika Grascher, Mathias Kolb, Thomas Neubauer*

**Session C3: # Full: IDS & Models**

**Chair:** Benjamin Turnbull

1. An Intrusion-Tolerant Mechanism for Intrusion Detection Systems  
*Liwei Kuang, Mohammad Zulkernine*
2. Fuzzy Private Matching (Extended Abstract)  
*Lukasz Chmielewski, Jaap-Henk Hoepman*
3. An End-to-End Security Solution for SCTP  
*Stefan Lindskog, Anna Brunstrom*

**Session D3: # Full: Mobile**

**Chair:** José M. Fernandez

1. Matching Policies with Security Claims of Mobile Applications  
*Natalia Bielova, Marco Dalla Torre, Nicola Dragoni, Ida Siahaan*
2. PSecGCM: Process for the development of Secure Grid Computing based Systems with Mobile devices  
*David G. Rosado, Eduardo Fernandez-Medina, Javier López, Mario Piattini*
3. WATCHMAN: An Overlay Distributed AAA Architecture for Mobile Ad hoc Networks  
*Amir Khakpour, Maryline Laurent-Maknavicius, Hakima Chaouchi*

**Session E3: # FARES: Access Control & Algorithms**

**Chair:** Stefan Fenz

1. A Federated Physical and Logical Access Control Enforcement Model  
*Stephane Onno*
2. Fostering the Uptake of Secure Multiparty Computation in E-Commerce  
*Octavian Catrina, Florian Kerschbaum*
3. A Survey on Trust and Reputation Schemes in Ad Hoc Networks  
*Marianne Azer, Sherif El-Kassas, Magdy El-Soudani*

**Session F3: # WPA**

**Chair:** Nguyen Manh Tho

1. VEA-bility Security Metric: A Network Security Analysis Tool  
*Melanie Tupper, A. Nur Zincir-Heywood*
2. Towards an Architecture for Balancing Privacy and Traceability in Ubiquitous Computing Environments  
*Stefan G. Weber, Andreas Heinemann, Max Mühlhäuser*
3. Privacy-Preserving Recommendation Systems for Consumer Healthcare Services  
*Stefan Katzenbeisser, Milan Petkovic*

**Session G3: # PSAI**

1. Hierarchical Trust Architecture in a Mobile Ad-Hoc Network Using Ant Algorithms  
*Cristina Satizábal, Jordi Forné, Rafael Martínez-Peláez*
2. Performance of a strategy based packets forwarding in Ad Hoc networks  
*Marcin Seredyński, Pascal Bouvry, Mieczysław Kłopotek*
3. AntTrust: A Novel Ant Routing Protocol for Wireless Ad-hoc Network Based on Trust Between Nodes  
*Carlos Aguilar Melchor, Boussad Ait Salem, Philippe Gaborit, Karim Tamine*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

#### **Session B4: # Full: Models**

**Chair: Gerald Quirchmayr**

1. Soundness Conditions for Message Encoding Abstractions in Formal Security Protocol Models  
*Alfredo Pironti, Riccardo Sisto*
2. Towards Formal Specification of Abstract Security Properties  
*Antonio Maña, Gimena Pujol*
3. A Behavioral Model of Ideologically-motivated "Snowball" Attacks  
*Natalia Stakhanova, Oleg Stakhanov, Ali Ghorbani*

#### **Session C4: # Short: Application**

**Chair: Stefan Lindskog**

1. Ensuring Progress in Amnesiac Replicated Systems  
*Rubén de Juan-Marín, Luis Irún-Briz, Francesc D. Muñoz-Escó*
2. Enhancing Face Recognition with Location Information  
*R.J. Hulsebosch, P.W.G. Ebben*
3. A Lazy Monitoring Approach for Heartbeat-Style Failure Detectors  
*Benjamin Satzger, Andreas Pietzowski, Wolfgang Trumler, Theo Ungerer*
4. Intrusion Detection for Wormhole Attacks in Ad hoc Networks a Survey and a Proposed Decentralized Scheme  
*Marianne Azer, Sherif El-Kassas, Magdy El-Soudani*

#### **Session D4: # Short: Services & Trust**

**Chair: Martin Gilje Jaatun**

1. A Pattern-Driven Security Process for SOA Applications  
*Nelly A. Delessy, Eduardo B. Fernandez*
2. Toward a Dependable Architecture for Highly Available Internet Services  
*Ayari Narjess, Pablo Neira, Laurent Lefevre, Barbaron Denis*
3. Assessing the Reliability and Cost of Web and Grid Orchestrations  
*Alan Stewart, Maurice Clint, Terry Harmer, Peter Kilpatrick, Ron Perrott, Joaquim Gabarro*
4. Application-oriented trust in distributed computing  
*Riccardo Scandariato, Yoram Ofek, Paolo Falcarin, Mario Baldi*
5. BlueTrust in a real world  
*Bradley Markides, Coetzee Marijke*

#### **Session E4: # FARES: Cryptography**

**Chair: Edgar Weippl**

1. New Self Certified Proxy Digital Signature Scheme based on Elliptic Curve Cryptosystem  
*Xiao Youan*
2. Privacy-preserving Protocols for Finding the Convex Hulls  
*Qi Wang, Yonglong Luo, Liusheng Huang*
3. A Secure RFID Protocol based on Insubvertible Encryption using Guardian Proxy  
*Kyosuke Osaka, Shuang Chang, Tsuyoshi Takagi, Kenichi Yamazaki, Osamu Takahashi*
4. Cryptographic properties of second-order memory elementary cellular automata  
*Ascension Hernandez Encinas, Angel Martin del Rey, Gerardo Rodriguez Sanchez, Araceli Queiruga Dios*

#### **Session F4: # FARES: Risk Management**

**Chair: Gernot Goluch**

1. Intensive Programme on Information and Communication Security  
*Christian Schläger, Ludwig Fuchs, Günther Pernul*
2. Applications for IT-Risk Management – Requirements and Practical Evaluation  
*Heinz Lothar Grob, Gereon H. M. Strauch, Christian Buddendick*
3. Security Analysis of Role-based Separation of Duty with Workflows  
*Rattikorn Hewett, Phongphun Kijasanayothin, Aashay Thipse*

**Session G4: # PSAI**

1. A Bayesian Approach for on-Line Max Auditing  
*Gerardo Canfora, Bice Cavallo*

**Wednesday, March 5, 2008**

9:00 – 10:30 Parallel Sessions

**Session B5: # Full: RBAC & Recommender****Chair: A Min Tjoa**

1. Hierarchical Domains for Decentralized Administration of Spatially-aware RBAC Systems  
*Maria Luisa Damiani, Claudio Silvestri, Elisa Bertino*
2. Experimental Demonstration of a Hybrid Privacy-Preserving Recommender System  
*Esma Aimeur, Gilles Brassard, Jose M. Fernandez, Flavien Serge Mani Onana, Zbigniew Rakowski*
3. Fast Qualitative Reasoning about Actions for Computing Anticipatory Systems  
*Natsumi Kitajima, Yuichi Goto, Jingde Cheng*

**Session C5: # Short: Cryptography****Chair: Gerald Quirchmayr**

1. An Identity-Based Group Key Agreement Protocol from Pairing  
*Wang Hongji, Yao Gang, Zhou Changle*
2. An Authenticated Three-Round Identity-Based Group Key Agreement Protocol  
*Wang Hongji, Yao Gang, Zhou Changle*
3. High Capacity Steganographic Method Based Upon JPEG  
*Adel Almohammad, Robert Hierons, Gheorghita Ghinea*
4. Cluster-based Group Key Agreement for Wireless Ad hoc Networks  
*Elisavet Konstantinou*

**Session D5: # Short: Privacy & Safety****Chair: Ludwig Fuchs**

1. Privacy Protected ELF with Private Computing on Public Platforms  
*Thomas Morris, V.S.S. Nair*
2. haplog: A Hash-Only and Privacy-Preserved Secure Logging Mechanism  
*Chih-Yin Lin*
3. An Improved Zonal Safety Analysis Method and Its Application on Aircraft CRJ200  
*Li Xiao lei, Tian Jin, Zhao Ting di*

**Session E5: # FARES: Access Control & Algorithms****Chair: Christian Schläger**

1. Efficient Certificate Path Validation and Its Application in Mobile Payment Protocols  
*Rafael Martínez-Peláez, Cristina Satizábal, Francisco Rico-Novella, Jordi Forné*
2. Avoiding Policy-based Deadlocks in Business Processes  
*Mathias Kohler, Andreas Schaad*
3. A Secure High-Speed Identification Scheme for RFID Using Bloom Filters  
*Yasunobu Nohara, Sozo Inoue, Hiroto Yasuura*

**Session F5: # SecSE2008****Chair: Martin Gilje Jaatun / Lillian Røstad**

1. Security requirement engineering at a Telecom provider  
*Albin Zuccato, Viktor Endersz and Nils Daniels*
2. Identifying Security Aspects in Early Development Stages  
*Takao Okubo and Hidehiko Tanaka*
3. Using Security Patterns to Combine Security Metrics  
*Thomas Heyman, Riccardo Scandariato, Christophe Huygens and Wouter Joosen*

## **Session G5: # PSAI**

1. Cluster-specific Information Loss Measures in Data Privacy: A Review  
*Vicenc Torra, Susana Ladra*
2. Intrusion Detection with Data Correlation Relation Graph  
*Amin Hassanzadeh, Babak Sadeghian*
3. Using Non-adaptive Group Testing to Construct Spy Agent Routes  
*Georgios Kalogridis, Chris Mitchell*

## **Session H5: # WAIS**

1. Insider-secure Signcryption KEM/Tag-KEM Schemes without Random Oracles  
*Chik How Tan*
2. Internet Observation with ISDAS: How long does a worm perform scanning?  
*Tomohiro Kobori, Hiroaki Kikuchi and Masato Terada*
3. Electronic Voting Scheme to Maintain Anonymity in Small-scale Election by Hiding the Number of Votes  
*Tsukasa Endo, Isao Echizen and Hiroshi Yoshiura*

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

## **Session B6: # Full: Risk Management**

**Chair:** Stefan Fenz

1. Enhancing Business Impact Analysis and Risk Assessment applying a Risk-Aware Business Process Modeling and Simulation Methodology  
*Simon Tjoa, Stefan Jakoubi, Gerald Quirchmayr*
2. Defining Secure Business Processes with Respect to Multiple Objectives  
*Thomas Neubauer, Johannes Heurix*
3. Analysis and Component-based Realization of Security Requirements  
*Denis Hatebur, Maritta Heisel, Holger Schmidt*

## **Session C6: # Short: Cryptography & Health**

**Chair:** Benjamin Aziz

1. A Statistical Algorithm for Linguistic Steganography Detection Based on Distribution of Words  
*Zhi-li Chen, Liu-sheng Huang, Zhen-shan Yu, Ling-jun Li, Wei Yang*
2. RTQG: Real-Time Quorum-based Gossip Protocol in Unreliable Networks  
*Bo Zhang, Kai Han, Binoy Ravindran, E.D. Jensen*
3. A Secure and Scalable Infrastructure for Inter-Organizational Data Exchange and eGovernment Applications  
*Jan Willemson, Arne Ansper*

## **Session D6: # Full: Trust, Security Economics**

**Chair:** Günther Pernul

1. Navigating in Webs of Trust: Finding Short Trust Chains in Unstructured Networks Without Global Knowledge  
*Jens-Uwe Büßer, Steffen Fries, Martin Otto, Peter Hartmann*
2. Trust Modelling in E-Commerce through Fuzzy Cognitive Maps  
*Christian Schläger, Günther Pernul*
3. Boosting Markov Reward Models for Probabilistic Security Evaluation by Characterizing Behaviors of Attacker and Defender  
*Zonghua Zhang, Farid Nait-Abdesselam, Pin-Han Ho*

## **Session E6: # FARES: Database & Models**

**Chair:** Gernot Goluch

1. Detecting Suspicious Relational Database Queries  
*Stefan Böttcher, Rita Hartel, Matthias Kirschner*
2. Assessing the Value of Enterprise Identity Management (EIdM) – Towards a Generic Evaluation Approach  
*Denis Royer*
3. An Ontological Approach to Secure MANET Management  
*Mark Orwat, Timothy Levin, Cynthia Irvine*

**Session F6: # SecSE2008****Chair: Martin Gilje Jaatun / Lillian Røstad**

1. Secure Software Design in Practice  
*Per Håkon Meland and Jostein Jensen*
2. Covering Your Assets in Software Engineering  
*Martin Gilje Jaatun and Inger Anne Tøndel*
3. A Non-Intrusive Approach to Enhance Legacy Embedded Control Systems with Cyber Protection Features  
*Shangping Ren and Kevin Kwiat*

**Session G6: # PSAI**

1. Detection of Malcodes by Packet Classification  
*Irfan Ahmed, Kyung-suk Lee*
2. Intelligent Video Surveillance Networks: Data Protection Challenges  
*Fanny Coudert, Jos Dumortier*
3. A Post-processing Method to Lessen k-Anonymity Dissimilarities  
*Agusti Solanas, Gloria Pujol, Antoni Martinez-Balleste, Josep Maria Mateo-Sanz*
4. Improving Techniques for Proving Undecidability of Checking Cryptographic Protocols  
*Zhiyao Liang, Rakesh Verma*

**Session H6: # WAIS**

1. Enocoro-80: A Hardware Oriented Stream Cipher  
*Dai Watanabe, Kota Ideguchi, Jun Kitahara, Kenichiro Muto, Hiroki Furuichi and Toshinobu Kaneko*
2. Cryptanalysis and Improvement of an 'improved remote authentication scheme with smart card'  
*Marko Hölbl and Tatjana Welzer*
3. Effective Monitoring of a Survivable Distributed Networked Information System  
*Paul Rubel, Michael Atighetchi, Partha Pal, Martin Fong and Richard O'Brien*

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

**Session B7: # Full: Networks****Chair: Edgar Weippl**

1. A Framework for Detecting Anomalies in VoIP networks  
*Yacine BOUZIDA, Christophe Mangin*
2. Rapid Detection of Constant-Packet-Rate Flows  
*Kuan-Ta Chen, Jing-Kai Lou*
3. Performance Analysis of Anonymous Communication Channels Provided by Tor  
*Andriy Panchenko, Lexi Pimenidis, Johannes Renner*

**Session C7: # Short: Models & Networks****Chair: Gerald Quirchmayr**

1. Run-time Information Flow Monitoring based on Dynamic Dependence Graphs  
*Salvador Cavadini, Diego Alejandro Cheda*
2. Automated Process Classification Framework using SELinux Security Context  
*Pravin Shinde, Priyanka Sharma, Srinivas Guntupalli*
3. Using Composition Policies to Manage Authentication and Authorization Patterns and Services  
*Judith E. Y. Rossebø, Rolv Bræk*
4. Providing Fault Tolerance in Wireless Backhaul Network Design with Path Restoration  
*Pakorn Leesuthipornchai, Naruemon Wattanapongsakorn, Chalermpol Charnsripinyo*

**Session D7: # Short: Networks****Chair: Octavian Catrina**

1. A Model for Specification and Validation of Security Policies in Communication Networks: the Firewall case  
*Ryma Abbassi, Sihem Guemara El Fatmi*
2. SPIT Detection and Prevention Method in VoIP Environment  
*HE Guang-Yu*
3. A New Approach to Analysis of Interval Availability  
*Ezzat Kirmani, Cynthia Hood*
4. SFMD: A secure data forwarding and malicious routers detecting protocol  
*Xianghe Yang, Huaping Hu, Xin Chen*

**Session E7: # FARES: Models****Chair: Andreas Ekelhart**

1. Reliability Analysis using Graphical Duration Models  
*Roland Donat, Laurent Bouillaut, Patrice Aknin, Philippe Leray, Didier Levy*
2. From Omega to <>P in the Crash-Recovery Failure Model with Unknown Membership  
*Mikel Larrea, Cristian Martin*
3. Policy-based Group Organizational Structure Management using an Ontological Approach  
*Mario Anzures-García, Luz A. Sánchez-Gálvez*

**Session F7: # SecSE2008****Chair: Martin Gilje Jaatun / Lillian Røstad**

1. Towards Incorporating Discrete-Event Systems in Secure Software Development  
*Sarah Whittaker, Mohammad Zulkernine and Karen Rudie*
2. How to Open a File and Not Get Hacked  
*James Kupsch and Barton Miller*
3. Rules of Thumb for Developing Secure Software: Analyzing and consolidating two proposed sets of rules  
*Holger Peine*

**Session H7: # WAIS**

1. Design of an FDB based Intra-domain Packet Traceback System  
*Hiroaki Hazeyama, Yoshihide Matsumoto and Youki Kadobayashi*
2. An Independent Evaluation of Web Timing Attack and its Countermeasure  
*Yoshitaka Nagami, Daisuke Miyamoto, Hiroaki Hazeyama and Youki Kadobayashi*
3. Secure Spatial Authentication for Mobile Stations IN Hybrid 3G-WLAN Serving Networks  
*Arjan Durresi, Mimoza Durresi and Leonard Barolli*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

**Session B8: # Full: Networks****Chair: Gernot Goluch**

1. Privacy/Analysis Tradeoffs in Sharing Anonymized Packet Traces: Single-Field Case  
*William Yurcik, Clay Woolam, Greg Hellings, Latifur Khan, Bhavani Thuraisingham*
2. A Distributed Defense Framework for Flooding-Based DDoS Attacks  
*Yonghua You, Mohammad Zulkernine, Anwar Haque*
3. Pure MPLS technology  
*Liwen He*
4. Symmetric Active/Active Replication for Dependent Services  
*Christian Engelmann, Stephen L. Scott, Chokchai Leangsuksun, Xubin He*

**Session C8: # Short: IDS****Chair: Wilfried Gansterer**

1. Histogram Matrix: Log File Visualization for Anomaly Detection  
*Adrian Frei, Marc Rennhard*
2. Context-based profiling for anomaly intrusion detection with diagnosis  
*Benferhat Salem, Tabia Karim*
3. A Revised Taxonomy of Data Collection Mechanisms with a Focus on Intrusion Detection  
*Ulf Larson, Erland Jonsson, Stefan Lindskog*
4. IDRS: Combining File-level Intrusion Detection with Block-level Data Recovery based on iSCSI  
*Youhui Zhang, Hongyi Wang*

**Session D8: # Full: Software****Chair: A Min Tjoa**

1. Statically Checking Confidentiality of Shared-Memory Programmes with Dynamic Labels  
*Marcus Voelp*
2. A Cause-Based Approach to Preventing Software Vulnerabilities  
*David Byers, Nahid Shahmehri*
3. Integrating a Security Plug-in with the OpenUP/Basic Development Process  
*Shanai Ardi, Nahid Shahmehri*
4. A Novel Testbed for Detection of Malicious Software Functionality  
*Jostein Jensen*
5. Type and Effect Annotations for Safe Memory Access in C  
*Syrine Tlili, Mourad Debbabi*

**Session E8: # FARES: Models****Chair: Stefan Fenz**

1. A Systematic Review and Comparison of Security Ontologies  
*Carlos Blanco, Joaquín Lasheras, Rafael Valencia-García, Eduardo Fernández-Medina, Ambrosio Toval, Mario Piattini*
2. Context Ontology for Secure Interoperability  
*Céline Coma, Nora Cuppens-Boulahia, Frédéric Cuppens, Ana Rosa Cavalli*

**Session F8: # FARES: Passwords & Services****Chair: Ludwig Fuchs**

1. On the security of VSH in password schemes  
*Kimmo Halonen, Pauli Rikula, Juha Röning*
2. Sustaining Web Services High-Availability Using Communities  
*Zakaria Maamar, Quan Z. Sheng, Djamel Benslimane*
3. Distributed Information Retrieval Service Based on Contents Information for Ubiquitous Services  
*Takeshi Tsuchiya, Marc Lihan, Hirokazu Yoshinaga, Keiichi Koyanagi*

**Session H8: # WAIS**

1. Privacy-Preserving Distributed Set Intersection  
*Qingsong Ye, Huaxiong Wang and Christophe Tartary*
2. Examination of Forwarding Obstruction Attacks in Structured Overlay Networks  
*Yo Mashimo, Shintaro Ueda, Yasutaka Shinzaki and Hiroshi Shigeno*
3. A New Algorithm for Hybrid Multiplier over Finite Field  
*A. Zadeh*

**Thursday, March 6, 2008**

9:00 – 10:30 Single Session

**Session A9: # Keynote Vijay Atluri: Security and Privacy Challenges in Location Based Service Environments**

10:30 – 11:00 Coffee Break

11:00 – 12:30

**Session A10: # Keynote Ravi Sandhu: ASCAA Principles for Next-Generation Role-Based Access Control**

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

**Session B11: # Full: Misc****Chair: Edgar Weippl**

1. Anomaly Based Character Distribution Modeling to Detect SQL Injection Attacks  
*Mehdi Kiani, Andrew Clark, George Mohay*
2. On the Possibility of Small, Service-Free Disk Based Storage Systems  
*Jehan-François Pâris, Thomas Schwarz, S.J.*
3. Efficient High Availability Commit Processing  
*Heine Kolltveit, Svein-Olaf Hvasshovd*
4. Adaptability of a GP Based IDS on Wireless Networks  
*Adetokunbo Makanju, Nur Zincir-Heywood, Evangelos Milios*

**Session D11: # Short: Networks****Chair: Andreas Ekelhart**

1. Securing Wireless Sensor Networks  
*Xun Yi, Mike Faulkner, Eiji Okamoto*
2. A Trusted Routing Protocol for Wireless Mobile Ad hoc Networks  
*Huang Chuanhe, Cheng Yong, Shi Wenming, Zhou Hao*

**Session E11: # FARES: Software and Trust****Chair: Coetzee Marijke**

1. A Lightweight Security Analyzer inside GCC  
*Davide Pozza, Riccardo Sisto*
2. Making Multi-dimensional Trust Decisions on Inter-enterprise Collaborations  
*Sini Ruohomaa, Lea Kutvonen*
3. A Preliminary Investigation of Skype Traffic Classification Using a Minimalist Feature Set  
*Duffy Angevine, A. Nur Zincir-Heywood*

**Session F11: # APE****Chair: Rafael Accorsi**

1. Partial Disclosure of Searchable Encrypted Data with Support for Boolean Queries  
*Yasuhiro Ohtaki*
2. Secure and Privacy-Friendly Logging for eGovernment Services  
*Karel Wouters, Koen Simoens, Danny Lathouwers and Bart Preneel*
3. The REM framework for security evaluation  
*Flora Amato, Valentina Casola, Antonino Mazzeo and Valeria Vittorini*

**Session H11: # SREIS**

1. Security Requirements Variability for Software Product Lines  
*Daniel Mellado, Eduardo Fernandez-Medina and Mario Piattini*
2. Transforming Security Requirements into Architecture  
*Koen Yskout, Riccardo Scandariato, Bart De Win and Wouter Joosen*
3. Goal-Oriented, B-Based Formal Derivation of Security Design Specifications from Security Requirements  
*Riham Hassan, Shawn Bohner, Sherif El-Kassas and Mohamed Eltoweissy*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

**Session A12: # Best Paper Award & Best Paper Presentation****Session E12: # DAWAM****Chair: Nguyen Manh Tho**

1. Adaptive Data Integrity through Dynamically Redundant Data Structures  
*Vincenzo De Florio and Chris Blondia*
2. ISEDS: An Information Security Engineering Database System  
*Daisuke Horie, Shoichi Morimoto, Yuichi Goto and Jingde Cheng*
3. Privacy Aspects of eHealth  
*Daniel Slamanig and Christian Stingl*
4. Data Integration Under Access Control Constraints  
*Sellami Mokhtar, Hacid Mohand Said and Benbernou Salima*

**Session F12: # APE**  
**Chair: Rafael Accorsi**

1. Static Validation of Licence Conformance Policies  
*René Rydhof Hansen, Flemming Nielson, Hanne Riis Nielson and Christian W. Probst*
2. Towards Practical Security Monitors of UML Policies for Mobile Applications  
*Fabio Massacci and Katsiaryna Naliuka*
3. Synthesis of Local Controller Programmes for Enforcing Global Security Properties  
*Fabio Martinelli and Ilaria Matteucci*

**Session H12: SREIS**

1. Alignment of Misuse Cases with Security Risk Management  
*Raimundas Matulevicius, Nicolas Mayer and Patrick Heymans*
2. Modelling Security Properties in a Grid-based Operating System with Anti-Goals  
*Alvaro Arenas, Benjamin Aziz, Juan Bicarregui, Brian Matthews and Erica Y. Yang*
3. Analysis of Security Requirements for Cryptographic Voting Protocols  
*Orhan Cetinkaya*
4. Information Stream Based Model for Organizing Security  
*Bernhard Thalheim, Sabah Al-Fedaghi and Khaled Al-Saqabi*
5. Annotating Regulations Using Cerno: an Application to Italian Documents - Extended Abstract  
*Nicola Zeni, Nadzeya Kiyavitskaya, James R. Cordy, Luisa Mich and John Mylopoulos*

**Friday, March 7, 2008**

9:00 – 10:30      Parallel Sessions

**Session B13: # Short: Hardware**  
**Chair: A Min Tjoa**

1. NFC Devices: Security & Privacy  
*Gerald Madlmayr, Christian Saminger, Stefan Grünberger, Josef Langer, Christian Kantner, Josef Scharinger*
2. Increasing the Performability of Computer Clusters Using RADIC II  
*Guna Santos, Angelo Duarte, Dolores Rexachs, Emilio Luque*
3. A Framework For Proactive Fault Tolerance  
*Geoffroy Vallee, Kulathep Charoenpornwattana, Christian Engelmann, Anand Tikotekar, Chokchai Leangsuksun, Thomas Naughton, Stephen Scott*
4. A Security Model and its Application to a Distributed Decision Support System for Healthcare  
*Liang Xiao, Andrew Peet, Paul Lewis, Srinandan Dasmahapatra, Carlos Sáez, Madalina Croitoru, Javier Vicente, Horacio González-Vélez, Magí Lluch i Ariet, David Dupplaw, Alex Gibb*

**Session C13: # WPA**  
**Chair: Gernot Goluch**

1. A Comprehensive Approach for Context-dependent Privacy Management  
*Mike Bergmann, Thomas Springer, Elke Franz, Christin Groba*
2. Traceable Quantitative Risk Assessment Applied to Investment Decision for Local Backups  
*Steffen Weiss, Martin Wahl, Michael Tielemann, Klaus Meyer-Wegener*
3. Quantitative Assessment of Enterprise Security System  
*Ruth Breu, Frank Innerhofer-Oberperfler, Artiom Yautsiukhin*
4. Detecting Bots Based on Keylogging Activities  
*Yousof Al-Hammadi, Uwe Aickelin*

**Session D13: # WSDF**

1. Wi-Fi Network Signals as a Source of Digital Evidence: Wireless Network Forensics  
*Benjamin Turnbull and Jill Slay*
2. Improving the Analysis of Lawfully Intercepted Network Packet Data Captured For Forensic Analysis  
*Jill Slay, Benjamin Turnbull and Joshua Broadway*
3. Recovery of Encryption Keys from Memory Using a Linear Scan  
*Christopher Hargreaves and Howard Chivers*

**Session E13: # DAWAM****Chair: Nguyen Manh Tho**

1. Adaptive Voting Algorithms for Reliable Dissemination of Data in Sensor Networks  
*Kaliappa Ravindran, Kevin Kwiat and Mohammad Rabby*
2. Risk as Dependability Metrics for the Evaluation of Business Solutions: A Model-driven Approach  
*Yudistira Asnar, Rocco Moretti, Maurizio Sebastianis and Nicola Zannone*
3. Implementing Multidimensional Security into OLAP tool  
*Carlos Blanco, Eduardo Fernández-Medina, Juan Trujillo and Mario Piattini*

**Session F13: # APE****Chair: Rafael Accorsi**

1. Weighted Datalog and Levels of Trust  
*Stefano Bistarelli, Fabio Martinelli and Francesco Santini*
2. Managing and Auditing Services for Enterprises Regulations  
*Paolo Ceravolo and Ernesto Damiani*
3. Negotiation of Usage Control Policies - Simply the Best?  
*Alexander Pretschner and Thomas Walter*

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

**Session D14: # WSDF**

1. Secure Steganography in Compressed Video Bitstreams  
*Bin Liu and Fenlin Liu*
2. Considerations Towards a Cyber Crime Profiling System  
*Kweku Arthur, Martin Olivier and Hein Venter*

**Session E14: # DAWAM****Chair: Nguyen Manh Tho**

1. Detecting Key Players in 11-M Terrorist Network: A Case Study  
*Nasrullah Memon and David L. Hicks*
2. Privacy Preserving Support Vector Machines in Wireless Sensor Networks  
*Dongseong Kim, Muhammad Azim and Jongsou Park*
3. An Image Encryption System by Cellular Automata with Memory  
*F. Maleki, A. Mohades, S. M Hashemi and M. E. Shiri*

**Session F14: # Short: Networks****Chair: Edgar Weippl**

1. The Impact of Flooding Attacks on Network-based Services  
*Meiko Jensen, Nils Gruschka, Norbert Luttenberger*
2. Managing Priorities in Atomic Multicast Protocols  
*Emili Miedes, Francesc D. Muñoz-Escó*
3. Beacon Frame Spoofing Attack Detection in IEEE 802.11 Networks  
*Asier Martínez, Urko Zurutuza, Roberto Uribeetxeberria, Miguel Fernández, Jesús Lizarraga, Ainhoa Serna*

# MESSAGE FROM THE CISIS-2008 ORGANIZERS

Welcome to the 2nd International Conference on *Complex, Intelligent and Software Intensive Systems* (CISIS-2008). The conference will be held at the Polytechnic University of Catalonia, Barcelona, Spain in conjunction with ARES-2008 International Conference. The aim of the conference is to deliver a platform of scientific interaction between the three interwoven challenging areas of research and development of future ICT-enabled applications: Software Intensive Systems, Complex systems and Intelligent Systems.

Software Intensive Systems are systems which heavily deal with other systems, sensors, actuators, devices, other software systems and users. More and more domains are involved with software intensive systems, e.g. automotive, telecommunication systems, embedded systems in general, industrial automation systems and business applications. Moreover, the outcome of web services delivers a new platform for enabling software intensive systems. The conference is thus focused on tools, practically relevant and theoretical foundations for engineering software intensive systems.

Complex Systems Research is focused on the overall understanding of systems rather than its components. Complex Systems are very much characterized by the changing environments in which they act and by their multiple internal and external interactions. They evolve and adapt through internal and external dynamic interactions.

The development of Intelligent Systems and agents which is each time more characterized by the use of ontologies and their logical foundations build a fruitful impulse for both, Software Intensive Systems and Complex Systems. Recent research in the field of intelligent systems, robotics, neuroscience, artificial intelligence and cognitive sciences are very important factor for the future development and innovation of software intensive and complex systems.

CISIS-2008 is aiming at delivering a forum for in-depth scientific discussions amongst the three communities.

The 40 papers included in the proceedings, selected from 84 submissions, cover all aspects of theory, design and application of complex systems, intelligent systems and software intensive systems.

The organization of an International Conference requires the support and help of many people. A lot of people have helped and worked hard to produce a successful CISIS-2008 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers, the Program Committee Members, and the reviewers who carried out the most difficult work by carefully evaluating the submitted papers. We would like to give special thanks to Dr. Fatos Xhafa as CISIS-2008 PC Chair for his excellent work and great efforts to deal with many problems of CISIS-2008 and preparing an interesting program.

This year in conjunction with CISIS-2008 we have 10 Workshops that complemented CISIS 2008 program with contributions for specific topics. We would like to thank the Workshop Co-Chairs Dr. Fatos Xhafa and Markus Aleksey and all the workshop organizers for organizing these workshops.

Finally, we would like to thank the Local Arrangement and the Administration Staff of Polytechnic University of Catalonia for their support and help and for making excellent local arrangement for the conference.

We hope you will enjoy the conference and have a great time in Barcelona.

## **General Co-Chairs**

Leonard Barolli, Fukuoka Institute of Technology (FIT), Japan

A Min Tjoa, Vienna University of Technology, Austria

Makoto Takizawa, Tokyo Denki University, Japan

# CISIS 2008 ORGANIZATION COMMITTEE

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## CISIS 2008 WORKSHOP PROGRAMME COMMITTEE MEMBERS

### **Second International Workshop on P2P, Parallel, Grid and Internet Computing (3PGIC-2008)**

#### **Workshop Organizers / Chairs:**

Leonard Barolli, Fukuoka Institute of Technology, Japan  
Fatos Xhafa, Polytechnic University of Catalonia, Spain

#### **Programme Committee Members:**

Joan Manel Marques, Open University of Catalonia, Spain  
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Arjan Durrusi, Louisiana State University, USA  
Claudi Paniagua Maci, IBM GTS, Virtualization and Grid Computing EBO, Spain  
Runhe Huang, Hosei University, Japan  
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Hui-huang Hsu, Tamkang University, Taiwan  
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Muhammad Younas, Oxford Brookes University, UK  
Bhed Bahadur Bista, Iwate Prefectural University, Japan  
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Elhadi Shakshuki, Acadia University, Canada  
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Ismail Khalil Ibrahim, Johannes Kepler University Linz, Austria  
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Takuo Nakashima, Kyushu Tokai University, Japan  
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### **2008 International Workshop on Multi-Core Computing Systems (MuCoCoS'08)**

#### **Workshop Organizers / Co-Chairs:**

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Sabri Pllana, University of Vienna, Austria  
Fatos Xhafa, Polytechnic University of Catalonia, Spain

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Fatos Xhafa, Polytechnic University of Catalonia, Spain  
Hans Zima, University of Vienna, Austria, and JPL/Caltech, USA

### **Second Workshop on Engineering Complex Distributed Systems (ECDS 2008)**

#### **Workshop Organizers / Co-Chairs:**

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Makoto Takizawa, Tokyo Denki University, Japan

#### **Programme Committee Members:**

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### **The First International Workshop on Adaptive Systems in Heterogeneous Environments (ASHEs)**

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### **Web/Grid Information and Services Discovery (WGISD-2008)**

#### **Workshop Organizers / Co-Chairs:**

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Antonino Mazzeo, Università Federico II di Napoli  
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### **International Workshop on Collaborative e-Learning Systems and Applications (CESA2008)**

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Joan Manuel Marquès, Open University of Catalonia, Spain  
Santi Caballé, Open University of Catalonia, Spain

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Abelardo Pardo, Universidad Carlos III de Madrid, Spain

Daniel Lazaro, Universitat Oberta de Catalunya, Catalonia, Spain  
Ruby Krishnaswamy, France Telecom, France

## **First International Workshop on Intelligent Interfaces for Human-Computer Interaction (IIHCI-2008)**

### **Workshop Organizers / Chairs:**

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Antonio Gentile, University of Palermo, Italy

### **Programme Committee Members:**

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Filippo Sorbello, University of Palermo, Italy  
Laurence Yang, St Francis Xavier University, Canada

## **International Workshop on Intelligent Informatics in Biology and Medicine (IIBM-2008)**

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## **International Workshop on Ontology Alignment and Visualization - OnAV'08**

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Jennifer Sampson, NICTA (National ICT Australia), Australia

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Merwyn G. Taylor, MITRE Corp., USA  
Csaba Veres, DSTO, Australia  
Anna V. Zhdanova, ftw., Austria

# CISIS 2008 & CISIS WORKSHOP PROGRAMME

**Tuesday, March 4, 2008**

9:00 – 10:30 Single Session

## **Session A1: Welcome and Opening Ceremony**

**Keynote Günther Pernl: Infrastructure Support for Authorization, Access Control and Privilege Management**

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

## **Session I2: # Wireless Networks**

**Chair: Fatos Xhafa**

1. An Intelligent Handoff System for Wireless Cellular Networks Using Fuzzy Logic and Random Walk Model  
*Leonard Barolli, Fatos Xhafa, Arjan Durresi, Akio Koyama*
2. Evaluation of the Reliable Data Transmission Protocol in Wireless Sensor-Actuator Networks  
*Kiyohiro Morita, Keiji Ozaki, Tomoya Enokido, Makoto Takizawa*
3. An efficient distributed self-organizing routing algorithm for Wireless Sensor Networks  
*Hugues Smeets, Ann Nowé, Kris Steenhaut*
4. Wireless Communication Quality Monitoring with Modeling Approach  
*Minoru Kotaki, Dauren Akhmetov*

## **Session J2: # Parallel, Autonomic & Service-based Applications**

**Chair: Sabri Pllana**

1. Demonstrating communication services based on autonomic self-organization  
*Albano Bernadas, Antonio Manzalini, Rosario Alfano, Josep Solé-Pareta*
2. Combining Generic Programming and Service-Oriented Architectures for the Effective and Timely Development of Complex e-Learning Systems  
*Santi Caballé*
3. Testing complex safety-critical systems in SOA context  
*R. Donini, S. Marrone, N. Mazzocca, A. Orazzo, D. Papa, S. Venticinque*
4. Services based Integrated Architecture for Adaptive Multimedia Delivery  
*Rocco Aversa, Beniamino Di Martino, Salvatore Venticinque*

## **Session L2: # IIHCI-S1e**

**Chair: Salvatore Gaglio**

1. Towards a Multimodal Visualization of Environmental Soft Sensors Prediction  
*Umberto Maniscalco, Patrizia Ciarlini, Rossella Cossu*
2. HumoristBot: Bringing Computational Humour into a Chat-Bot System  
*Agnese Augello, Gaetano Saccone, Giovanni Pilato, Salvatore Gaglio*
3. A Java3D Talking Head for a Chatbot  
*Salvatore Gaglio, Roberto Pirrone, Giovanni Pilato, Orazio Gambino, Agnese Augello, Alessandro Caronia*
4. GAIML: a new language for verbal and graphical interaction in chatbots  
*Roberto Pirrone, Vincenzo Cannella, Giuseppe Russo*

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

## **Session I3: # P2P Computing**

**Chair Leonard Barolli**

1. Extending JXTA Protocols for P2P File Sharing Systems  
*Fatos Xhafa, Leonard Barolli, Raul Fernández, Thanasis Daradoumis, Santi Caballé, Vladi Kolici*
2. Making Societies in Peer-to-peer (P2P) Overlay Networks  
*Masakazu Maruok, Valbona Barolli, Tomoya Enokido, Makoto Takizawa*
3. Checkpointing in a Distributed Coordination Protocol for Multiple Peer Processes  
*Ailixier Aikebaier, Tomoya Enokido, Makoto Takizawa*
4. Actuator-Device Coordination in a Reliable Sensor, Actuator, and Device Network (SADN)  
*Keiji Ozaki, Tomoya Enokido, Makoto Takizawa*

**Session J3: # Distributed Systems and Simulation****Chair: Markus Aleksy**

1. A distributed approach for structured resource discovery on Grid  
*Andrea Clematis, Angelo Corana, Daniele D'Agostino, Vittoria Gianuzzi, Alessio Merlo, Alfonso Quarati*
2. A Distributed Simulation Environment for Simulation Modeling in Operational Risk Management  
*Markus Aleksey, Stefan Seedorf, Christian Cuske*
3. Hybrid Performance Modeling and Prediction of Large-Scale Computing Systems  
*Sabri Pllana, Siegfried Benkner, Fatos Xhafa, Leonard Barolli*

**Session L3: # IIHCI-S2****Chair: Roberto Pirrone**

1. XPL and the Synchronization of Multimodal User Interfaces based on Design Pattern  
*Marilia Liotta, Antonella Santangelo, Giuseppe Vella, Nunzio Ingraffia, Antonio Gentile*
2. The eXtensible Dynamic Presentation Manager for content adaptation  
*Roberto Raccuglia, Giuseppe Vella, Antonella Santangelo, Nunzio Ingraffia, Antonio Gentile*
3. A Multimodal Guide for Virtual 3D Models of Cultural Heritage Artifacts  
*Eleonora Trumello, Antonella Santangelo, Antonio Gentile, Salvatore Gaglio*
4. User-friendly Inspection of Medical Image Data Volumes in Virtual Environments  
*Luigi Gallo, Giuseppe De Pietro, Ivana Marra*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

**Session I4: # Software Intensive Systems****Chair: Santi Caballé**

1. Tangible Interfaces for Interactive Software Intensive Presentations  
*Kamen Kanev*
2. Adaptive Computational Chemotaxis in Bacterial Foraging Optimization: An Analysis  
*Sambarta Dasgupta, Arijit Biswas, Ajith Abraham, Swagatam Das*
3. An Improved Non-linear Image Enhancement Method for Video Coding  
*Lung-Jen Wang, Ya-Chun Huang*
4. A Novel Embedded Fingerprints Authentication System based on Singularity Points  
*Militello Carmelo, Conti Vincenzo, Sorbello Filippo, Salvatore Vitabile*

**Session J4: # Optimization and Mathematical Modelling****Chair: Takuo Nakashima**

1. A Computing Model for Marketable Quality and Profitability of Corporations: A Case Study Evaluation Using a New Sources Data  
*Heihachiro Fukuda, Valbona Barolli, Leonard Barolli, Makoto Takizawa*
2. Evolving Turbo Code Interleavers by Genetic Algorithms  
*Ajith Abraham, Pavel Kromer, Vaclav Snasel, Nabil Ouddane*
3. Hardware/Software Partitioning Problem in Embedded System Design Using Particle Swarm Optimization Technique  
*Amit Konar Amit Konar, Alakananda Bhattacharya, Ajith Abraham, Swagatam Das*
4. Implicit Deadline Calculation for Seller Agent Bargaining in Information Marketplaces  
*Kostas Kolomvatsos, Stathes Hadjiefthymiades*

**Session L4: # IIHCI-S3****Chair: Luca Fanucci**

1. A Java-based Wrapper for Wireless Communications  
*Alessandro Genco, Salvatore Sorce, Cono Ferrarotto, Roberto Gallea, Antonino Gentile, Sandro Impastato, Marco Morana*
2. Game console controller interface for people with disability  
*Fabrizio Iacopetti, Luca Fanucci, Roberto Roncella, David Giusti, Andrea Scubba*
3. PDA – Remote Display Interaction Framework  
*Alessandro Genco, Salvatore Sorce, Rosario Messineo, Paolo Raccuglia*

**Wednesday, March 5, 2008**

9:00 – 10:30 Single Session

**Session A5: # Keynote Timothy K. Shih: Video Inpainting**

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

### **Session O6: # Sensor Networks, MANET and Applications**

**Chair: Arjan Durresi**

1. Extraction of Characteristics of Anomaly Accessed IP Packets by the Entropy-based Analysis  
*Takuo Nakashima, Shunsuke Oshima, Yusuke Nishikido, Toshinori Sueyoshi*
2. Secure Mobile Communications for Battlefields  
*Arjan Durresi, Mimoza Durresi, Leonard Barolli*
3. Techniques for Efficient Resource Management for Context-Sensitive Mobile Applications  
*Markus Aleksey, Ralf Gitzel, Gerhard Vollmar, Nicolaie Fantana, Christian Stich, Makoto Takizawa*
4. Dynamic Probabilistic Flooding Performance Evaluation of On-Demand Routing Protocols in MANETs  
*Abdalla Hanashi, Aamir Siddique, Irfan Awan, Mike Woodward*

### **Session P6: # XML & Data Processing**

**Chair: Makoto Takizawa**

1. A Consistency Combination Algorithm for Global Dynamic Computation and Data Decomposition  
*Han Lin, Zhao RongCai, Pang JianMin*
2. Realizing a News Value Markup Language for News Management Systems Using NewsML  
*Masayuki Kodama, Tadachika Ozono, Toramatsu Shintani, Yasuyoshi Aosaki*
3. Discovery of Frequent Query Patterns in XML Pattern Graph with DTD Cardinality Constraints  
*Yunfeng Liu, Tengjiao Wang*
4. Active XML Replication and Recovery  
*Debmalya Biswas*

### **Session M6: # ECDS-S1**

**Chair: Leonard Barolli**

1. Java Remote Job Execution System  
*Shanliang JIANG, Stuart CLEMENTS*
2. The Secure Three-Tier Architecture pattern  
*Eduardo B. Fernandez, Mihai Fonoage, Michael VanHilst, Mirela Marta*
3. MC-CDMA: An Alternative Multiple Access Technique in 3G Wireless Architecture  
*Md. Razib Hayat Khan, Abul Ahsan Md. Mahmudul Haque, A.F.M Sultanul Kabir, Md. Sakhawat Hossen*
4. Tomorrow's Open Internet for Telco and Web federation  
*Antonio Manzalini*

### **Session N6: # OnAV-S1**

**Chair: Jennifer Sampson**

1. Ontology Matching based on the comparison of Axioms represented with Conceptual Graphs  
*Frederic Furst, Francky Trichet*
2. Visual tracing of automatic ontology merging  
*Martin Eller, Bernhard Schiemann*
3. An Approach for Mapping of Domain-based Local Ontologies  
*Abdolreza Hajmoosaei, Sameem Abdul Kareem*
4. Comparison of textual renderings of ontologies for improving their alignment  
*Jorge Martinez-Gil, Ismael Navas-Delgado, Jose F. Aldana-Montes*

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

### **Session O7: # Web & Ontology and Semantic approaches**

**Chair: Salvatore Vitabile**

1. A Quantitative Treatment to Data from Computer-Supported Collaboration: An Ontological Approach  
*Luis Casillas, Thanasis Daradoumis*
2. Web Performance and Behavior Ontology  
*Carlos Guerrero, Carlos Juiz, Ramon Puigjaner*
3. Facilitating Interoperability in Semantic Web Applications Using Ontologies  
*Jennifer Sampson , Monika Lanzenberger, Csaba Veres*

## **Session P7: # Applications of Complex and Intelligent Systems I**

**Chair: Andrei Doncescu**

1. An Embedded Real-Time Lane-Keeper for Automatic Vehicle Driving  
*Salvatore Vitabile, Salvatore Bono, Filippo Sorbello*
2. The Web Goes Mobile: Can we keep the Pace?  
*Gabriele Kotsis, Ismail Khalil Ibrahim*
3. Diagnostic and Therapy Prediction in Breast Cancer by Consistent Knowledge Discovery  
*Andrei Doncescu*

## **Session M7: # ECDS-S2**

**Chair: Markus Aleksy**

1. Integrating Shadows in Model Driven Engineering for Agile Software Development  
*Marc Conrad, Marianne Huchard, Thomas Preuss*
2. Agile Methodologies for Distributed Collaborative Development of Enterprise Applications  
*Tobias Hildenbrand, Michael Geisser, Thomas Kude, Denis Bruch, Thomas Acker*
3. Approaches to Collaborative Software Development  
*Tobias Hildenbrand, Franz Rothlauf, Michael Geisser, Armin Heinzl, Thomas Kude*

## **Session N7: # OnAV-S2**

**Chair: Monika Lanzenberger**

1. SmartMatcher – How Examples and a Dedicated Mapping Language can Improve the Quality of Automatic Matching Approaches  
*Horst Kargl, Manuel Wimmer*
2. Ontology Mapping Through Tagging  
*Colm Conroy, Declan O'Sullivan, David Lewis*
3. Semantic Comparison of Ontologies based on Wordnet  
*Encarna Sosa, Adolfo Lozano-Tello, Alvaro E. Prieto*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

## **Session O8: # Applications of Complex and Intelligent Systems II**

**Chair: Hui Huang**

1. Developing an Information System for Monitoring Student's Activity in Online Collaborative Learning  
*Angel Juan, Thanasis Daradoumis, Javier Faulin, Fatos Xhafa*
2. The effects of a plantar pressure-based, tongue-placed tactile biofeedback system on the regulation of the centre of foot pressure displacements during upright quiet standing: a fractional Brownian motion analysis  
*Nicolas Vuillerme, Olivier Chenu, Anthony Fleury, Yohan Payan, Jacques Demongeot*
3. Segmentation of the Liver from Abdominal CT Using Multi-featured Markov Random Fields  
*Vipin Chaudhary, Raja Alomari, Suryaprakash Kompalli*

## **Session P8: # 3PGIC-S1**

**Chair: Fatos Xhafa**

1. Pricing Computational Resources in Dynamic Grid  
*Khalid Abdelkader, Jan Broeckhove*
2. Bidding support for computational resources  
*Xavier Vilajosana, Joan Manuel Marquès, Ruby Krishnaswamy, Angel A. Juan, Nejla Amara-Hachmi, Leandro Navarro*
3. Communication Model for Decentralized Meta-Scheduler in Grid Environments  
*Florin Pop*
4. Supervising Agent Team in an Agent-based Grid Resource Brokering System—Initial Solution  
*Wojciech Kuranowski, Maria Ganzha, Marcin Paprzycki, Ivan Lirkov*

## **Session M8: # ECDS-S3**

**Chair: Markus Aleksy**

1. SOA as an Effective Tool for the Flexible Management of Increased Service Heterogeneity in Converged Enterprise Networks  
*Lukas Auer, Natalia Kryvinska, Peter Zinterhof*
2. Methodologies for Designing Agent Societies  
*Mariachiara Puviani, Giacomo Cabri, Letizia Leonardi*

## **Session N8: # OnAV-S3**

**Chair: Markus Rester**

1. Semantic mappings: out of ontology world limits  
*José Ángel Ramos*
2. 'Positon Paper' Processing ontology alignments with SPARQL  
*Jérôme Euzenat, François Scharffe, Axel Polleres*
3. 'Positon Paper' Dynamic Thesaurus Construction from English-Japanese  
*Yoshihiro Shimoji, Sachio Hirokawa*
4. Positon Paper' Ontology Matching: current status, dilemmas and future challenges  
*Konstantinos Kotis, Monika Lanzenberger*

## **Thursday, March 6, 2008**

9:00 – 10:30 Single Session

### **Session A9: # Keynote Vijay Atluri: Security and Privacy Challenges in Location Based Service Environments**

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

### **Session A10: # Keynote Ravi Sandhu: ASCAA Principles for Next-Generation Role-Based Access Control**

#### **Session J10: # 3PGIC-S2**

**Chair: Leonard Barolli**

5. Managing Networks of Mobile Entities using the HyVonNe P2P Architecture  
*Vittoria Gianuzzi, Alessio Merlo, Andrea Clematis, Daniele D'Agostino*
6. LightPS: Lightweight Content-based Publish/Subscribe for Peer-to-Peer Systems  
*Jordi Pujol Ahulló, Pedro García López, Antonio F. Gómez Skarmeta*
7. An Efficient Deployment Schema of Active Sensor Peers for Location-based Publish/Subscribe Services  
*Hiroki Saito, Yoichi Nakamura, Kazumasa Ogawa*
8. Persistent interoperable security for JXTA  
*Joan Arnedo-Moreno, Jordi Herrera-Joancomartí*

#### **Session K10: # ASHEs-S1**

**Chair: Chi-Chun Lo**

5. Autonomous Coordination Technology to Achieve Continuous Service in Autonomous Decentralized VoD Systems  
*Xiaodong Lu, Kinji Mori*
6. Autonomous Mobile Agent Coordination Technology for Fungible Multi-Services to Achieve High Response Time  
*Shoichi Murakami, Sotrao Kimura, Xiaodong Lu, Kinji Mori*
7. A Study on Representation of QoS in UDDI for Web Services Composition  
*Lo Chi-Chun, Cheng Ding-Yuan, Lin Ping-Chi, Chao Kuo-Ming*
8. Group Organizational Structure Adaptation for Groupware Applications  
*Mario Anzures-García, Luz A. Sánchez-Gálvez*

#### **Session M10: # CESA-KEYNOTE**

#### **Session L10: # IIBM-S1**

**Chair: Ignazio Infantino**

1. Design of a Remote Monitoring Platform for Telemedicine Systems Using New Generation Mobile Services  
*Silvia Blasco, J. David Uceda, Mar Elena, J. Manuel Quero*
2. Testing and evaluation of microarray image analysis software  
*Ignazio Infantino, Carmelo Lodato, Salvatore Lopes*
3. Development of a Vital Sign Data Mining System for Chronic Patient Monitoring  
*Vincent S. Tseng, Lee-Cheng Chen, Chao-Hui Lee, Jin-Shang Wu, Yu-Chia Hsu*

12:30 – 13:30 Lunch Break

13:30 – 15:00 Parallel Sessions

### **Session J11: # 3PGIC-S3**

**Chair: Florin Pop**

1. Performance analysis of Data replication in Grid Delivery Network  
*Baert Anne-Elisabeth, Bouvet Vincent, Jean-Marie Alain*
2. A User-Profile-Oriented Mediation Architecture for Very Large DataBases in Dynamic Inter-Grid Context  
*Nadia Bennani, julien Gossa, Ny Haingo Andrianarisoa*
3. Semantic Enabled Metadata Framework for Data Grids  
*Dayong Huang, Xinqi Wang, Gabrielle Allen, Tevfik Kosar*
4. Experiences on Grid Shared Data Programming  
*Dacian Tudor, Vladimir Cretu*

### **Session K11: # ASHEs-S2**

**Chair: Ivan Stojmenovic**

1. A Study of Maximum Lifetime Routing in Sparse Sensor Networks  
*Ewa Hansen, Mikael Nolin, Mats Björkman*
2. The Research of frame and key technologies for Intrusion Detection System in IEEE 802.11-based Wireless Mesh Networks  
*Hongjian Li, Ming Xu, Yi Li*
3. Simplified Bluetooth Scatternet Formation Using Maximal Independent Sets  
*Nejib Zaguia, Ivan Stojmenovic, Yassine Daadaa*
4. Research and Analysis of Topology Control in NS-2 for Ad-hoc Wireless Network  
*Xu Li, Bo Hui, Haixia Liu, Mei Song, Wei Guo*

### **Session M11: # CESA-S1**

**Chair: Santi Caballé**

1. Towards the Construction of a Multi-agent Approach for Discovering the Meaning of Natural Language Collaborative Conversations  
*Luis Casillas, Thanasis Daradoumis*
2. Adaptive Collaboration Scripting: A Conceptual Framework and a Design Case Study  
*Stavros Demetriadis, Anastasios Karakostas*
3. e-Learning at Work in the Knowledge Virtual Enterprise  
*Nicola Capuano, Sergio Miranda, Francesco Orciuoli, Stefania Vassallo*

### **Session L11: # IIBM-S2**

**Chair: Hui-Huang Hsu**

1. Interaction motifs in regulatory networks and structural robustness  
*A. Elena, Jacques Demongeot*
2. Inferring the function of genes from synthetic lethal mutations  
*Oliver Ray, Chris Bryant*
3. Robustness of Dynamical Systems Attraction Basins Against State Perturbations: Theoretical Protocol and Application in Systems Biology  
*Jacques Demongeot, Michel Morvan, Sylvain Sené*

15:00 – 15:30 Coffee Break

15:30 – 17:30 Parallel Sessions

### **Session J12: # 3PGIC-S4**

**Chair: Marcin Paprzycki**

1. A framework for decentralized Xconferencing and its JXTA implementation  
*Ahmed Meddahi, Gilles Vanwormhoudt, Amro Malkawi*
2. An Architecture for Decentralized Service Deployment  
*Daniel Lázaro, Joan Manuel Marquès, Josep Jorba*
3. Enabling parallel TMA image analysis in a Grid environment  
*Antonella Galizia, Federica Viti, Alessandro Orro, Daniele D'Agostino, Ivan Merelli, Luciano Milanesi, Andrea Clematis*
4. An Efficient Hybrid P2P Approach for Non-Redundant Tree Exploration in B&B Algorithms  
*Malika Mehdi, Mohand Mezmaz, Nouredine Melab, El Ghazali Talbi, Pascal Bouvry*

**Session K12: # ASHEs-S3****Chair: Rachid Anane**

1. HGRID: An Adaptive Grid Resource Discovery  
*Antonia Gallardo, Luis Diaz de Cerio, K. Sanjeevan*
2. Evaluation of Clustering techniques for Efficient Searching in a JXTA-based P2P  
*Fatos Xhafa, Enric Jaen Villoldo, Thanasis Daradoumis, Leonard Barolli*

**Session M12: # CESA-S2****Chair: Th. Daradoumis**

1. Supporting Communities of Learning Practice by the Effective Embedding of Information and Knowledge into Group Activity  
*Santi Caballé, Jerome Feldman, David Thaw*
2. Implementation and Design of New Functions for a Web-based E-learning System to Stimulate Learners Motivation  
*Keita Matsuo, Leonard Barolli, Fatos Xhafa, Akio Koyama, Arjan Durresi, Makoto Takizawa*
3. Towards decentralized resource allocation for collaborative peer to peer learning environments  
*Xavier Vilajosana, Daniel Lázaro, Joan Manuel Marques, Angel A. Juan*
4. COPE: Democratic CSCW in Support of e-Learning  
*David Thaw, Jerome Feldman, Joseph Li, Santi Caballe*

**Session L12: # IIBM-S3****Chair: Oliver Ray**

1. Protein Disordered Region Prediction by SVM with Post-Processing  
*Cheng-Wei Hsieh, Hui-Huang Hsu, Ming-Da Lu*
2. An SSR Comparative Genomics Database and Its Applications  
*Tun-Wen Pai, Meng-Chang Hsiao, Chien-Ming Chen, Wen-Shyong Tzou, Ron-Shan Chen*
3. Splice Site Recognition in DNA Sequences Using K-mer Frequency Based Mapping for Support Vector Machine with Power Series Kernel  
*Robertas Damasevicius*

**Friday, March 7, 2008**

9:00 – 10:30      Parallel Sessions

**Session J13: # FCISIS-S1****Chair: Leonard Barolli**

1. A mechanism of application-network interactions in a high-speed optical network  
*Vincent Reinhard, Joanna Tomaszik*
2. Web and Grid Services for improving ambient intelligence embedded in pervasive, personal ECG devices  
*Hussein Atoui, Jocelyne Fayn, Paul Rubel*
3. Data fusion for analysis of persistence in pervasive actimetry of elderly people at home, and the notion of biological age  
*Jacques Demongeot, N. Noury, N. Vuillerme*

**Session K13: # MuCoCos-KEYNOTE (David A. Bader)****Chair: Sabri Pllana**

1. Embla -- Data Dependence Profiling for Parallel Programming  
*Karl-Filip Faxon, Konstantin Popov, Sverker Jansson, Lars Albertsson*
2. Latency Impact on Spin-Lock Algorithms for Modern Shared Memory Multiprocessors  
*Jan C. Meyer, Anne C. Elster*

**Session M13: # WGSD-S1****Chair: Beniamino Di Martino**

1. The Grid4All ontology for the retrieval of traded resources in a market-oriented Grid  
*Konstantinos Kotis, George Vouros, Alexandros Valarakos, Andreas Papasalouros, Xavier Vilajosana, Ruby Krishnaswamy*
2. Toward a semantic approach for automatic composition of Learning Grid Services  
*Gustavo Gutiérrez-Carreón, Thanasis Daradoumis, Josep Jorba*
3. Optimizing Decentralized Grid Markets through Group Selection  
*Isaac Chao, Ramon Sangüesa, Oscar Ardaiz, Liviu Joita, Omer F. Rana*
4. An Adaptation Approach for Grid E-Learning Services  
*Mihaela Brut, Sabin Buraga*

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Sessions

#### **Session J14: # FCISIS-S2**

**Chair: Fatos Xhafa**

1. Memory System Design for a Multi-core Processor  
*Jianjun Guo*
2. Multithreaded Translation of Ptolemy II designs on Multicore Platforms  
*Alberto Gonzalez Tellez, Miguel Mateo Pla*
3. On the Design of a SoPC Based Multi-Core Embedded System  
*Tai-On Kwok, Yu-Kwong Kwok*

#### **Session K14: # MuCoCos-S2**

**Chair: David A. Bader**

1. Escaping from the HOL blocking: a Dynamic Virtual Channel Architecture for the On-Chip Routers  
*Lai Mingche*
2. On the Potential of NoC Virtualization for Multicore Chips  
*Jose Flich, Samuel Rodrigo, Jose Duato, Thomas Sødring, Åshild Grønstad Solheim, Tor Skeie, Olav Lysn*
3. Efficiently Implementation of Wireless Applications on Dynamically Reconfigurable Processor based Multi-core platform  
*Wei Han, Ying Yi, Mark Muir, Ioannis Nousias, Tughrul Arslan, Ahmet Erdogan*
4. Multi-Variant Program Execution: Using Multi-Core Systems to Defuse Buffer-Overflow Vulnerabilities  
*Babak Salamat, Andreas Gal, Todd Jackson, Karthikeyan Manivannan, Gregor Wagner, Michael Franz*

#### **Session M14: # WGisd-S2**

**Chair: Salvatore Vinticinque**

1. A Service-Oriented Approach for Semantic Annotation and Retrieval inside the Pervasive E-Learning Systems  
*Mihaela Brut, Dana Al-Kukhun, Florence Sedes*
2. Remote Service to solve the Two-Dimensional Cutting Stock Problem. An application to the Canary Islands costume  
*Jesica de Armas, Coromoto Leon, Gara Miranda, Carlos Segura*
3. An integrated system, with natural language management, for the monitoring activities in e-learning environments  
*Orlando De Pietro, Giovanni Frontera*
4. Towards the Automatic Service Generation and Scheduling in the OpenCF Project  
*Adrian Santos, Francisco Almeida, Vicente Blanco, David Diez, Jonás Regueira, Esaú Sicilia*  
*Adrian Santos, Francisco Almeida, Vicente Blanco, David Diez, Jonás Regueira, Esaú Sicilia*

12:30 – 13:30 Coffee Break

13:30 – 15:00 Parallel Sessions

#### **Session J15: # FCISIS-S3**

**Chair: Leonard Barolli**

1. Java and the Power of Multi-Core Computing  
*Peter Bertels, Dirk Stroobandt*
2. A Novel Automated Design approach to Guide the Processor Element Based on the Cost Estimation Model  
*Lai Mingche*
3. Developing Concurrent Applications on Emerging Multicore Platforms  
*Shangping Ren, Jerzy Nogiec*

#### **Session K15: # MuCoCos-S3**

**Chair: Siegfried Benkner**

1. User-Land Work Stealing Schedulers: Towards a Standard  
*Joerg Wagner, Armin Jahanpanah, Jesper Larsson Traff*
2. Single-Pass List Partitioning  
*Leonor Frias, Johannes Singler, Peter Sanders*
3. The Graphics Processor as a Mathematical Coprocessor in MATLAB  
*André Rigland Brodtkorb*
4. A Parallel Algorithm for Advanced Video Motion Estimation on Multicore Architectures  
*Svetislav Momcilovic, Leonel Sousa*

**Session M15: # WG1SD-S3**

**Chair: Coromoto Leon**

1. Ontology-based Modeling and Execution of Workflows for a Virtual ISP  
*Daniel Pop, Florin Fortis, Viorel Negru*
2. The Web Site of MUSA. A Work in Progress of Knowledge Management  
*Grazia Maria Signore*
3. Building RDF Ontologies from semi-structured legal documents  
*Antonio Penta, Antonino Mazzeo, Flora Amato, Antonio Picariello*
4. Ontology Based and Context-Aware Hospital Nurse Call Optimization  
*Femke Ongenae, Matthias Strobbe, Filip De Turck, Tom Dhaene, Piet Demeester, Piet Verhoeve*
5. A Proposal for an Electromagnetic Ontology Framework  
*Alessandra Esposito, Luciano Tarricone, Laura Vallone, Marco Zappatore*

# Additional Information

## Reception at the Barcelona City Hall

When?	Tuesday 04 <sup>th</sup> of March 18:50
Where?	Barcelona City Hall Plaça de Sant Jaume 1 Barcelona, 08002 Spain

## Conference Dinner

When?	Wednesday 05 <sup>th</sup> of March 20:00  (Guided tour before dinner: 19:15)
Where?	„La Miranda del Museu“ Plaça de Pau Vila

## WLAN

The Wireless LAN connection is available from 04<sup>th</sup> – 07<sup>th</sup> of March.

### How to use it:

The only requirement to use the WLAN infrastructure is a Wi-Fi compatible device which supports the IEEE norm 802.11b or 802.11g.

### The table below outlines the configuration required to connect to the WLAN.

802.1x access	Web access
SSID: eduroam	SSID: eduroam-web
Authentication: EAP-TTLS + PAP Encryption: WPA + TKIP All wireless traffic is encrypted	HTTPS password is encrypted
User: xsf.convidat Password: Tinc7daigua	

### Access methods:

#### a) Secure access (802.1x protocol) (SSID eduroam): [www.eduroam.es](http://www.eduroam.es)

With this access method the connection will be fully encrypted. It needs the installation of a secure client program (EAP-TTLS, WPA/TKIP). This is the recommended option.

This is the eduroam option and permits access for users of other eduroam institutions with their accounts.

#### b) Web portal access (SSID eduroam-web):

This option permits easy access from all the operating systems, and no needs local configuration. For this reason is useful for sporadic users, social events, classrooms...

## Visits to the MareNostrum Supercomputing Center

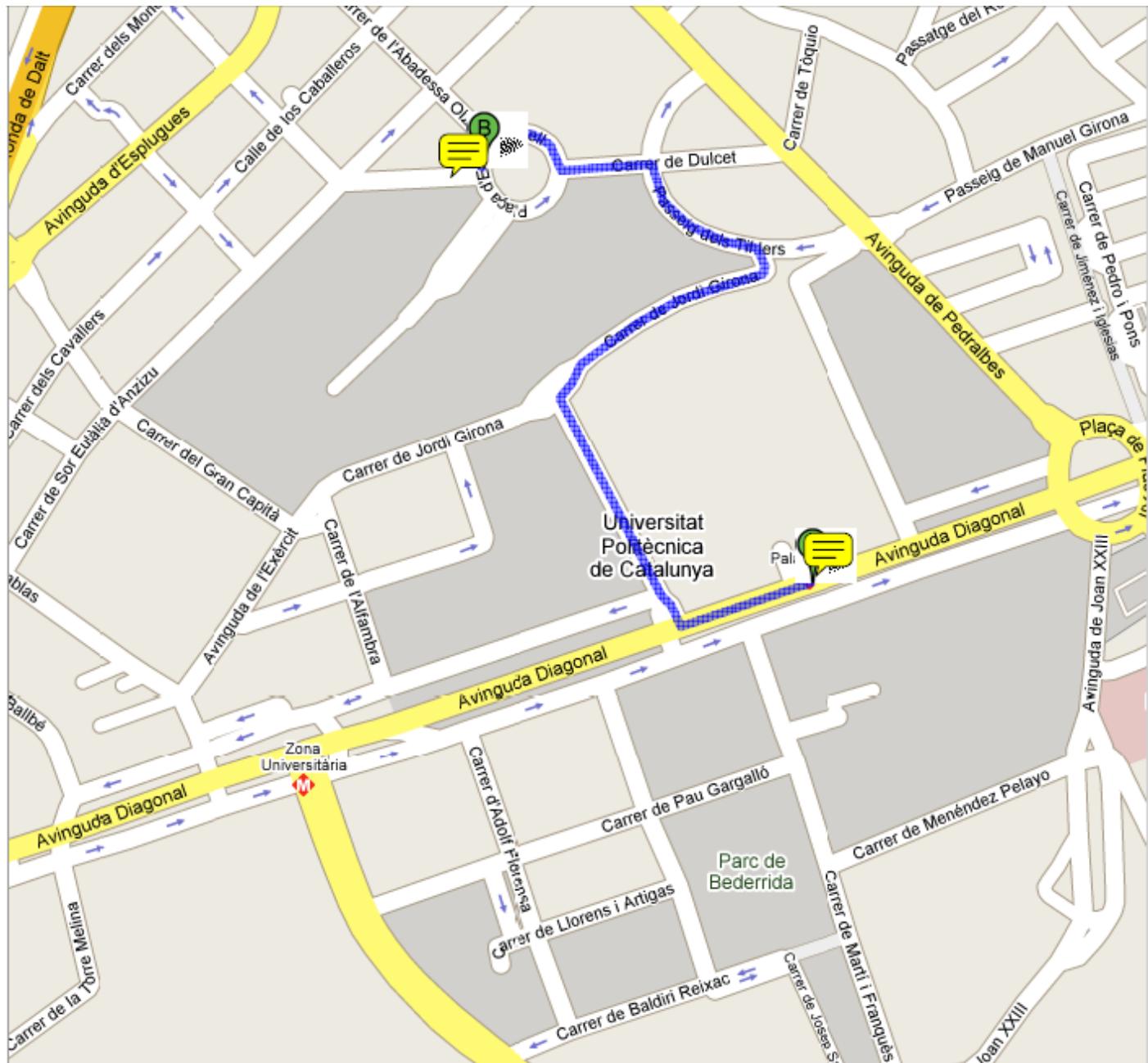
ARES/CISIS organized free guided tours to the MareNostrum Supercomputing Center. The tours to MareNostrum will leave every day at 13:00. As groups must at least consist of 10 persons, we kindly ask you to sign up at the registration desk. If less than 10 persons sign up, we unfortunately have to cancel the visit of the specific day due to the guided tours conditions of the MareNostrum Supercomputing Center.

# MAPS

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## Palau Reial to Conference Site Vertex

Avinguda Diagonal  
Plaça d'Eusebi Güell, 6  
08034, Barcelona

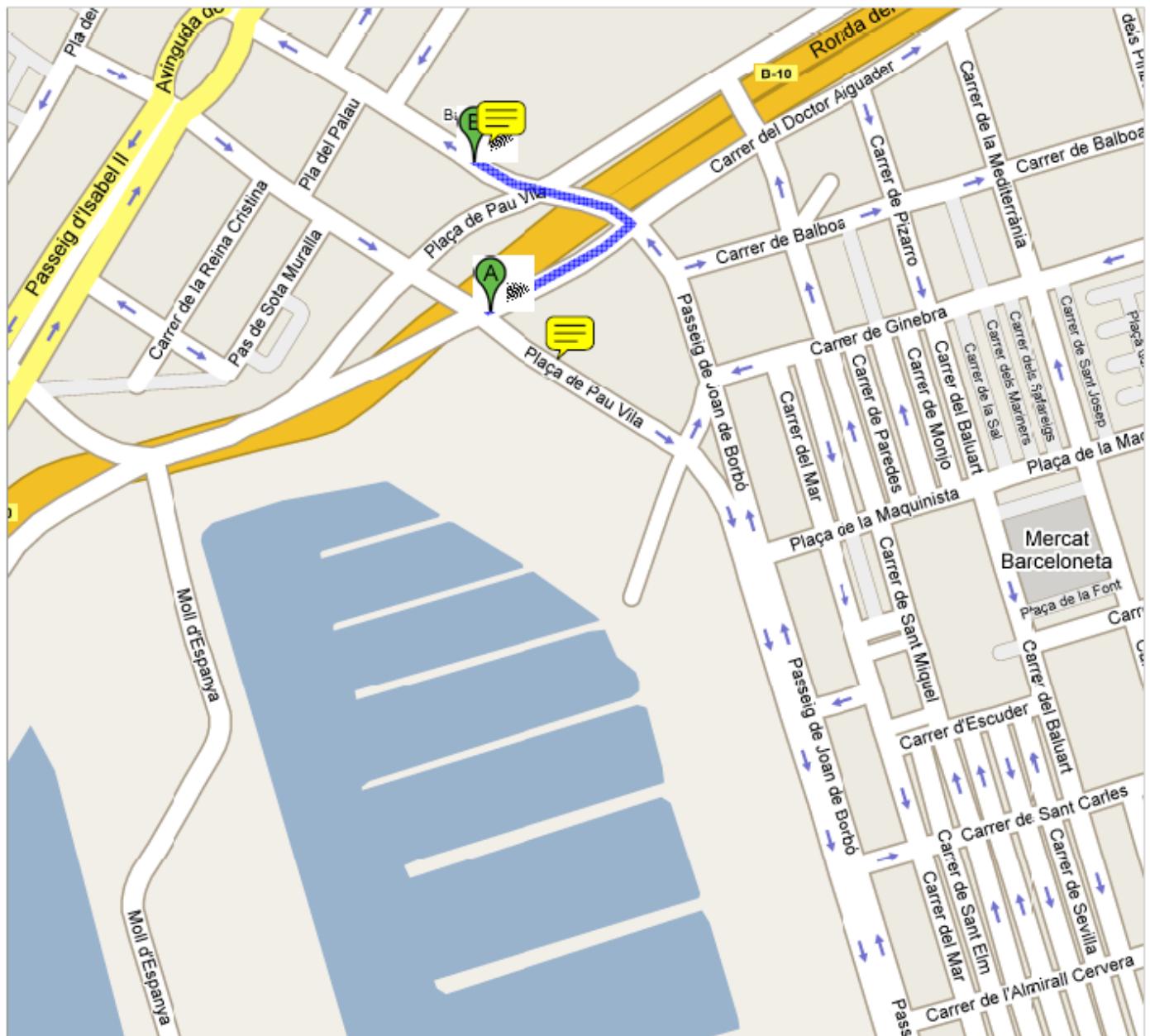


# MAPS

© by Google

## Barceloneta Restaurant Miranda del Mar Plaça Pau Vila

Plaça de Pau Vila  
Barceloneta



# MAPS

## Metro Map Barcelona



# MAPS

## Restaurant Guide



1. Restaurant Self-service Polimenú \*La Cup: Bufet Libre  
C / Jordi Girona, 1-3 Telf: 934017107 / 932044020
2. Restaurant Notable \*La Cup:  
C / Jordi Girona, 3\*5 Telf: 934017107 / 932044020
3. Restaurant FIB  
UPC Campus Nord, Edf. B6
4. Restaurant Facultad de Caminos  
UPC Campus Nord, Edf. B2
5. Restaurant Vertex  
UPC Campus Nord, Edf. Vertex Telf: 932805126
6. Restaurant Nexus  
UPC Campus Nord, Edf. Nexus Telf: 932802223
7. Restaurant Poliesportiu UPC  
UPC Campus Nord, Edf. Poliesportiu
8. Restaurant Cantabria  
C / Sor Eulalia D'Anzizu, 45 Telf: 932039556
9. Restaurant Frankfurt Pedralbes \*Jordi Girona  
C / Jordi Girona, 2\*4 Telf: 932052717

10. Restaurant Rovell d'Ou: Cocina Catalana  
C / Jordi Girona, 6 Telf: 932057871
11. Restaurant Zure Etxea: Cocina Vasca  
C / Jordi Girona, 10 Telf: 932038390
12. Restaurant Julivert Meu: Cocina Catalana  
C / Jordi Girona, 12 Telf: 932041196 / 932057821
13. Restaurant Pati Blau: Cocina Catalana  
C / Jordi Girona, 14 Telf: 932042215
14. Restaurant Triton: Cocina Mediterranea  
C / Alfambra, 16 Telf: 932033085
15. Bar Restaurant La Tassa: Cocina de Mercado  
C / Alfambra, 15 Telf: 932048865
16. Restaurant Can Tornem-hi: Cocina Casera  
Av Exèrcit, 8\*10 Telf: 932804814
17. Restaurant Pàradís Temporada  
Pg Manuel Girona, 7 Telf: 932037637

### Referential prices:

until 12 € p/p

between 20€ and 40 € p/p

more than 40€ p/p