FINAL PROGRAM

THE 2002 ACM SIGAPP SYMPOSIUM ON APPLIED COMPUTING
http://www.acm.org/conferences/sac/sac2002/

Universidad Carlos III De Madrid, Madrid, Spain
March 11 – 14, 2002

Organizing Committee
Gary Lamont        Brajendra Panda
Juan Llorens       Warren Jones
Janice Carroll     Jorge Morato
Hisham Haddad      Antonio de Amescua
George Papadopoulos Min-Chih Chou
Don Morton         Sergio Santiago

Check out the special program and enjoy several guided tours of Madrid.

Register for SAC 2002 and get one-year “FREE” SIGAPP membership

Sponsored by
Symposium on Applied Computing (SIGAPP) and
Universidad Carlos III De Madrid, Madrid, Spain
SAC 2002 Introduction

SAC 2002 is one of the premier conferences on applied computing and technology. SAC attendees will have the opportunity to hear from expert practitioners and researchers about the latest trends in research and development in their fields. SAC 2002 features 2 keynote speakers on Tuesday and Wednesday, from 8:30 to 10:00AM. The symposium consists of tutorial and technical programs. The tutorial program offers 4 half-day and 3 full-day tutorials on Monday March 11, 2002. Tutorials start from 10:00AM to 7:00PM. This years tutorials focus on different areas, including Enterprise-Class Web Service, Multi-Agent Systems, Knowledge Modeling Techniques, Multimedia Databases, Technology Application in Bioinformatics, XML Technologies, and Web Data Management. The technical program offers 21 tracks that run from Tuesday March 12 through Thursday March 14, 2002. Sessions start from 8:30AM to 5:30PM in 5 concurrent sessions.

SAC 2002 Organizers

Gary B. Lamont, Symposium Chair
Air Force Institute of Technology, Dayton, Ohio, U.S.A

Juan Llorens, Symposium Vice Chair
Universidad Carlos III de Madrid, Madrid, Spain

Jan Carroll, Symposium Director
Roger State University, Claremore, Oklahoma, USA

Hisham Haddad, Program Chair
Kennesaw State University, Kennesaw, Georgia, USA

George A. Papadopoulos, Program Chair
University of Cyprus, Nicosia, Cyprus

Don Morton, Treasurer/Registrar
University of Montana, Missoula, Montana, U.S.A

Brajendra Panda, Publication Chair
University of Arkansas, Fayetteville, Arkansas, USA

Warren Jones, Bioinformatics Director
University of Alabama at Birmingham, Birmingham, Alabama, USA

Jorge Morato, Tutorials Chair
Universidad Carlos III de Madrid, Madrid, Spain

Antonio de Amescua, Publicity Chair
Universidad Carlos III de Madrid, Madrid, Spain

Min-Chih Chou, Webmaster
AND1 Inc., Paoli, Pennsylvania, USA

Sergio Santiago, Local Arrangement Chair
Fundacion Universidad Carlos III de Madrid, Madrid, Spain

SAC 2002 Tracks

A.I. and Computational Logic
Chairs: Chih-Cheng Hung, A. Rosa, and S. Bistarelli

Agents, Interactions, Mobility, and Systems
Chairs: Henry Hexmoor, Marcin Paprzycki, and Niranjan Suri

Applications of Spatial Simulation of Discrete Entities
Chairs: William A. Maniatty and Boleslaw K. Szymanski

Bioinformatics
Chairs: Warren Jones and Hasan Jamil

Computational Sciences
Chair: S. Lakshmivarahan

Coordination Models, Languages and Applications

SAC 2002 Sponsor

SAC 2002 is solely sponsored by the ACM Special Interest Group on Applied Computing (SIGAPP). The meeting is hosted by Universidad Carlos III de Madrid, Madrid, Spain. Special thanks to the local arrangement team and those who contributed to the success of SAC 2002.

ACM SIGAPP

The ACM Special Interest Group on Applied Computing is ACM’s primary applications-oriented SIG. Its mission is to further the interests of the computing professionals engaged in the development of new computing applications and applications areas and the transfer of computing technology to new problem domains. SIGAPP offers practitioners and researchers the opportunity to share mutual interests in innovative application fields, technology transfer, experimental computing, strategic research, and the management of computing. SIGAPP also promotes widespread cooperation among business, government, and academic computing programs. Its annual Symposium on Applied Computing (SAC) provides an international forum for presentation of the results of strategic research and experimentation. SIGAPP Members receive the SIG newsletter, Applied Computing Review, which is published twice annually. SIGAPP Membership fees are: $30.00 for ACM Non-members, $15 for ACM Members, and $8 for Student Members. For information contact Gary Lamont (937) 255-3450x4718 or gary.lamont@afit.af.mil.
MESSAGE FROM THE CONFERENCE CHAIR

Gary Lamont

Welcome to the 17th Annual ACM Symposium on Applied Computing (SAC 2002) as hosted by Universidad Carlos III de Madrid in Leganés, Spain, which is strategically located South of Madrid! Thanks for attending this international forum for computer scientists, engineers and practitioners that includes many innovative computational ideas and a wide spectrum of applications.

SAC is a conference devoted to the study of real-world problem applications using many varieties of computation algorithms. As such, it provides an avenue for discussion and exchange of new ideas, associated computation algorithms, and interesting complex applications. The Symposium is rightly sponsored by the ACM Special Interest Group on Applied Computing (SIGAPP) whose mission is to further the interests of the computing professional engaged in the development of new computing applications, interdisciplinary applications areas, and applied research. Thus, the spectrum of applications and tutorials covers databases and computational finance to evolutionary algorithms, software engineering, and parallel and distributed computing plus others designed to provide a wide range of topics as reflected in the SAC 2002 program. Note that Biomedical Computing is also a special element of the Symposium with an innovative bioinformatics track and associated tutorial and plenary session as directed by Warren Jones.

Each of the SAC 2002 tracks is organized by a talented track chair. Their names are listed in the proceedings. Many thanks to them, the paper reviewers, the plenary speakers, and the presenters as well as the organizing committee for their many hours of volunteer work that contribute to a successful SAC 2002. In particular, we should thank Juan Llorens of the University Carlos III for being the vice-chair and the host for the Symposium, Hisham Haddad and George Papadopoulos for providing a well organized program, Brajendra Panda for managing the publishing of the proceedings, Sergio Santiago for providing for local arrangements, Antonio de Amezcua toiling as publicity chair, Jorge Morato for arranging the tutorials, Jan Carroll as a Symposium Director and Min-Chih Chou who has kept our SAC web site up to date. Also special thanks to Don Morton for the critical role of treasurer/registrar. All elements of the Symposium have been guided by the enthusiasm, foresight, and dedication of these professionals. Join our group in support of next year’s SAC 2003!

Again welcome to SAC 2002 and Leganés, Spain. We hope that you will leave enriched with new friends and new ideas having enjoyed the distinctive ambiance of Spain. Next year, we encourage you and your colleagues to submit papers and attend SAC 2003.

MESSAGE FROM THE PROGRAM CHAIRS

Hisham Haddad and George Papadopoulos

Welcome to the 17th Symposium on Applied Computing (SAC 2002). During the past 16 years, the Symposium provided an opportunity for researchers and practitioners to present their findings and research results in the areas of computer applications and technology. This year, the 3-day technical program offers a wide range of tracks covering major areas of computer applications. Highly qualified referees with strong expertise and special interest in their respective research areas carefully reviewed submitted papers. In addition, the technical program includes a tutorial program offering 3 full-day and 4 half-day and tutorials. The tutorials are described later in this program and are posted on the conference website.

SAC 2002 would not be possible without submissions and contributions from members of the scientific community like you. As anyone can imagine, many people put tremendous time and effort over the period of 9 to 10 months to bring you an excellent program. The success of SAC 2002 relies on the effort and hard work of many volunteers. On behalf of the SAC 2002 Program Committee, we would like to take this opportunity to thank all of those who made this years technical program a reality, including speakers, referees, track chairs, session chairs, presenters, and attendees. We also thank the local arrangement committee lead by Professor Juan Llorens, Universidad Carlos III de Madrid, Spain.

This year, SAC embarked on a radical modification of its established procedure for compiling the list of tracks to which authors would subsequently submit their papers. More to the point, an open call for track proposals was introduced, inviting all parties interested in holding a track to respond to this call by submitting to the Program Chairs a short description of the proposed track, along with a preliminary dissemination plan of the proposed track’s call for papers and a short CV of the potential track chairs. In response to this call, 34 track proposals were submitted which were evaluated thoroughly by SAC 2002 Organizing Committee. Some proposals were rejected on the grounds of either not being appropriate for the areas that SAC covers traditionally or being of rather narrow and specialized nature. Some others were merged to form a single track, on the grounds of having substantial overlap with each other. Eventually, 21 tracks were established, which then went on to produce their own call for papers. In response to these calls, 457 papers were submitted, from which 194 papers were strongly recommended by the referrers for acceptance and inclusion in the Conference Proceedings. This gives SAC 2002 an acceptance rate of 42% across all submissions and an average acceptance rate of 40% over all tracks. It also makes SAC 2002 the most successful conference in the history of SAC so far, but also one of the most popular and competitive conferences in the international field of applied computing.

We hope you will enjoy the meeting and have the opportunity to exchange your ideas and meet new friends. We also hope you will enjoy your stay in Madrid and take pleasure from the
many entertainment and activities that the city has to offer. The local committee organized a social program that consists of guided tours. Please check SAC 2002 website for details. We look forward to your active participation in SAC 2002, and encourage you and your colleagues to submit your research findings to next year's technical program. Thank you for being part of SAC 2002.

**OTHER ACTIVITIES**

1) SAC 2002 Review and TCs Planning meeting, Monday March 11, 5:30 to 7:00PM, Room 4.0.F.18. Open for organizing committee, Track Chairs and Co-chairs.

2) SAC 2002 Welcome Reception, Monday March 11, 7:00PM, Teacher Cafeteria, First floor of Padre Soler building. Open for all registered attendees.

3) SAC General Luncheon, Tuesday March 12, from noon to 1:30PM, Teacher Cafeteria. Open for all registered attendees.

4) SIGAPP Business meeting, Tuesday March 12, from 5:30 to 7:00PM, Room 4.0.F.18. Open for everyone.

5) Track Chairs Planning meeting, Tuesday March 12, 7:00PM, Room 4.0.F.18. Open for SAC EC and Track Chairs and Co-Chairs.

6) SAC General Luncheon, Wednesday March 13, from noon to 1:30PM, Teacher Cafeteria. Open for all registered attendees.

7) SAC 2003 Organization meeting, Wednesday March 13, from 5:30 to 7:00PM, Room 4.0.f.18. Open for everyone.

8) SAC 2002 Banquet and Flamenco Show, Wednesday March 13, departure at 7:00PM, Corral de la Pacheca restaurant. Open for registered attendees and ticket holders.

9) SAC General Luncheon, Thursday March 14, from noon to 1:30PM, Teacher Cafeteria. Open for all registered attendees.

10) SAC 2002 Wrap-up meeting, Thursday March 14, 5:30 to 7:00PM, Room 4.0.f.18. Open for everyone.

11) Track Chairs Dinner, Thursday March 14, at 7:00PM, Parquesur hotel restaurant. Open for SAC 2002 Track Chairs and Co-Chairs.

**SAC 2003**

Next year symposium will be hosted by the Florida Institute of Technology at Melbourne, Florida, USA. Melbourne is located on the east coast of Florida near Cape Canaveral and Cocoa Beach and about 1 hour drive from Orlando. Please visit SAC 2003 website for Call For Track Proposals and Call For Papers. SAC 2003 will start on Sunday March 9, 2003 through Wednesday March 12, 2003.

**ABSTRACT**
The last 5 - 10 years have brought spectacular achievements in genome sequencing? genomes of 5 higher organisms and over 60 microbes have been sequenced and the draft human genome has been published. However genome sequencing simply means the transferring of digital information from one carrier? DNA, to another? the electronic computer. Even if we assume that all the genes in the genome have been correctly identified, this will still only be a parts list of an organism. It took science more than a thousand years to progress from quite a detailed knowledge of human anatomy in ancient Greece to some understanding of physiology. We hope that achieving understanding of how genomes function will be much faster. This is the new research field known as functional genomics.

New high throughput technologies, most notably DNA microarrays are already producing terabites of relevant functional genomics information. Analysing and interpreting this data with the goal of obtaining new knowledge about life is the task of computational approaches. Functional genomics is giving computer scientists new challenges and new opportunities, some of which we will discuss in this talk.

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**TUESDAY KEYNOTE ADDRESS**

**Computational Functional Genomics**

Professor Alvis Brazma
European Informatics Institute, Cambridge, UK
Tuesday March 12, 2002, 8:30AM – 10:00AM

**WEDNESDAY KEYNOTE ADDRESS**

**How Applied Technology Allows Decrease Energy Consumption Through TOU (Time of Use) Management: A Practical Case**

Professor Diego Pavia
SchlumbergerSema Spain, General Manager
Wednesday March 13, 2002, 8:30AM – 10:00AM

**ABSTRACT**

In the energy sector the absence of investment for the last 5 years in new generation capacity as well as in transportation or distribution, together with a steady yearly increase of 7-8% in consumption is bringing some countries to black out situations where power supply is cut randomly in some time windows in the day. The solutions for that western world problem are infra-structural (new power plants or transmission lines) or conjunctural. In the conjunctural ones, with very early impact on the crises situation is the consumption adaptions by Time Of Use (TOU) consumption management. Shifting the load from peak to off-peak in real time demands intensive high technological systems, starting in intelligent meters, residential gateways, blended telecom infrastructures and massif data treatment and control. We will present a real problem, how applied computing has enabled to solve it, and the return of experience after implementing the technological solution, all with direct impact on consumers pockets, environment and quality of life.
**TUTORIAL 1 - FULL DAY**

**10:00AM – 7:00PM, ROOM 4.0.F.16**

**DEVELOPING ENTERPRISE-CLASS WEB SERVICES AND APPLICATIONS WITH J2EE AND SOAP**

Professors Sandeep Chatterjee and Carol Burt

First Part: The next stage in the evolution of Internet applications will be based on Web services. Web services are pieces of application functionality that are exported through a set of standard application programming interfaces (APIs), and allow applications to be constructed by locating and binding to the exported functionality. More interestingly, multiple Web services can be coordinated together in unique combinations in an Internet application to implement value-added services for users. In this tutorial, we describe the design, development, deployment, and maintenance of Internet applications based on Web services. We also describe the emerging mobile Internet environment, the unique issues inherent to these environments, and the challenges in developing mobile applications based on loosely coupled Web services. In addition to a broad coverage of the fundamental topics, industry standards, and technologies (e.g., Java, J2EE, application servers, XML, SOAP, WSDL, UDDI) underlying the development of Web services and applications based on Web services, the tutorial will provide practical, step-by-step instruction for the development and deployment of Web services and applications based on standard Java 2 Enterprise Edition (J2EE) application servers and SOAP servers.

Second Part: This part addresses the challenge of securing web services, and protecting business and personal information in a heterogeneous component environment. The tutorial will be describe a typical enterprise business environment (based on a real-world example) and the practical problems of introducing security to an environment where J2EE, CORBA, and Web Services extend business services to the Internet. It will compare and contrast the authorization models supported by these environments where access control must be done based on the user (or some security attribute of the user such as group or role).

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**TUTORIAL 2 - FULL DAY**

**10:00AM – 7:00PM, ROOM 4.0.F.18**

**MULTI-AGENT SYSTEMS**

Professors Henry Hexmoor and Svet Braino

Multiagent systems replaced distributed AI of a decade ago and is currently a promising and constantly growing research area. Applications of multiagent systems are ubiquitous, including electronic commerce, networks; transportation and power systems, automated scheduling, information gathering, optimization of industrial manufacturing and production, electronic entertainment, aerospace, synthetic warspaces and virtual wars, to name just a few. This tutorial combines the two common approaches to multiagency: the formal logic-based approach and the economic utilitarian approach. There has long been a gap between these two approaches. The formal approach is the evolution of symbolic approach to AI, while the economic approach stems from market oriented approaches and their application to understanding an individual’s behavior. By combining these two approaches we provide a new and not standard view of multiagent systems, which combines the strengths of symbolic reasoning with the advantages of decision-theoretic analysis.

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**TUTORIAL 3 - FULL DAY**

**10:00AM – 7:00PM, ROOM 4.0.E.02**

**MODERN KNOWLEDGE MODELING TECHNIQUES AND KNOWLEDGE DISCOVERY IN DATABASES - PRINCIPLES, APPLICATIONS**

Professor Vladan Devedzic

Part 1: A major characteristic of developments in the broad field of Artificial Intelligence (AI) during the 1990s has been an increasing integration of AI with other disciplines. A number of other computer science fields and technologies have been used in developing intelligent systems, starting from traditional information systems and databases, to modern distributed systems and the Internet. This tutorial surveys knowledge modeling techniques that have received most attention in recent years among developers of intelligent systems, AI practitioners and researchers.

Part 2: Constant increase in the amount of data stored in databases has led to the "flood" of data featuring many information systems today. To make things worse, the advance of distributed computing and the Internet in the nineties has further multiplied the considerable speed with which many of the world's databases are growing daily since mid-eighties. However, raw data from databases are sometimes not useful themselves. What is often needed in modern applications is sophisticated data analysis and
Multimedia databases (MMDBs) are essential for efficient management and effective use huge amounts of multimedia data in several diverse applications such as digital libraries, manufacturing and retailing, art and entertainment, journalism, etc. Broadly, MMDBs are required to provide unified frameworks for storing, processing, retrieving, transmitting, and presenting a variety of media data types in a wide variety of formats, adhering to numerous constraints, which are absent in traditional databases. The issues involved in the design of a multimedia database system are numerous and quite complex.

This tutorial presents a top-down view of the architecture and design of a Multimedia Database (MMDB). It covers the principles and techniques involved in the design of the components of a MMDB, and the issues and challenges involved in their design and implementation.

Unfortunately, it is not easy to perform data analysis manually - expensive human analysts may be needed, and difficulties grow enormously when the amount of data exceeds a certain limit. The technology of knowledge discovery in databases (KDD) comes to the rescue in such situations. It helps automate data analysis, discover useful patterns in data, interpret them, present them to the user in an easily comprehensive form, and further use them in subsequent discovering of new knowledge in databases. The central part of the knowledge discovery process is called data mining. It encompasses a rich set of methods, techniques and algorithms for searching preselected subsets of data for knowledge. Combined with the techniques from the machine learning domain and statistics, data mining and KDD have become powerful tools for sophisticated, effective, efficient, and automated data analysis.

The tutorial starts with an introduction of basic concepts and ideas of KDD. Then it explains all the phases in the KDD process, paying particular attention to data mining techniques. Pattern representation and evaluation are also treated in details, and so is the problem of including the knowledge discovered during the KDD process into applications. A number of existing systems and development tools are then analyzed, in order to show how the basic ideas are implemented in practice.

**TUTORIAL 4 - HALF DAY**

**10:00AM – 1:00PM, SALON DE GRADOS**

**MULTIMEDIA DATABASES**

Professor S. R. Subramanya

Rapid technological advances in several areas such as high-speed processors, high-density storage devices, newer I/O devices, high-bandwidth communication networks have resulted in phenomenal increases in the generation, transmission, and use of multimedia data in many applications. Multimedia generally refers to an integrated set of two or more of a variety of semantically related media types in digital form such as audio, images, video, graphics, and animation, together with text data.

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**TUTORIAL 5 - HALF DAY**

**4:00PM – 7:00PM, SALON DE GRADOS**

**INTEGRATED SOLUTIONS FOR BIOINFORMATICS USING MICROARRAYS**

Professor Sorin Draghici

Modern biology combines the use of advanced information technology tools. This talk will present a range of informatics tools currently used in gene expression studies. The tools cover all phases of the process from microarray design, microarray fabrication, image analysis, normalization, data processing and data analysis and exploratory data mining in large data warehouses of biological information. Current problems and challenges in all phases are discussed together with a review of the software tools available.

**TUTORIAL 6 - HALF DAY**

**10:00AM – 1:00PM, ROOM 4.0.D.01**

**XML TECHNOLOGIES AND THEIR USE IN AN E-COMMERCE PROJECT**

Professor Eli Rohn

Part 1: XML for Managers and Engineers (2 hours): What is XML (including recent history); Live Demonstrations; Hype and Reality Check; Benefits and Risks; Existing and Emerging Tools; Current Research Relating to XML; and XML and Voice Applications. Part 2: Lessons Learned from Implementing XML in a Large E-Commerce Project (2 hours). In this presentation we examine the acceptance and implementation of XML in an e-commerce project, focusing on three business partners who use XML to exchange data. The presenter, who had a lead part in the project, shares the experience of using XML technology, outlining implementation issues and sharing with the audience insights into practical complexities associated with XML usage in a business situation. We then proceed to analyze the findings and attempt to generalize them for the edification of academics and practitioners alike.

**TUTORIAL 7 - HALF DAY**

**4:00PM – 7:00PM, ROOM 4.0.D.01**

**WEB DATA MANAGEMENT WITH XML**

Professor Sanjay Madria

This tutorial will explore topics related to design and management of web data using XML. On completion of this, attendees should be able to understand key principles and concepts underlying XML technology, to design web applications. The course deals with learning web data models and web query languages based on XML. We learn XML, DTD and development of web query systems such as XML-QL (from AT&T), XQL (XML query language from Microsoft), X-schema, RDF, and XML indexing and integration techniques. The key objective is to learn web data management techniques such as querying, restructuring and reduction of XML data, web data integration using XML.
MONDAY MARCH 11, 2002

10:00AM – 5:00PM REGISTRATION AREA

REGISTRATION

5:30 – 7:00PM ROOM 4.0.F.18

SAC 2002 REVIEW AND TCs PLANNING MEETING

7:00PM TEACHER CAFETERIA

WELCOME RECEPTION

TUESDAY MARCH 12, 2002

8:00AM – 5:00PM REGISTRATION AREA

REGISTRATION

8:00 – 8:30AM SALON DE GRADOS

OPENING COMMENTS

8:30 – 10:00AM SALON DE GRADOS

KEYNOTE ADDRESS

Computational Functional Genomics
Professor Alvis Brazma

10:00 – 10:30AM TEACHER CAFETERIA

COFFEE BREAK

10:30 – NOON ROOM 4.0.F.18

VIRTUAL REALITY, DIGITAL MEDIA AND COMPUTER GAMES

Professor Marc Cavazza University of Teesside, UK

NiceMeetVR: Facing Professional Baseball Pitchers in the Virtual Batting Cage
Taku Komura, RIKEN, Japan
Atsushi Kuroda, GSPORT, Inc., Japan
Yoshisasa Shinagawa, University of Illinois Urbana-Champaign, USA

The Structuring of a Wireless Internet Application for a Music-On-Demand Service On UMTS Devices
Marco Roccetti, Vittorio Ghini, Paolo Salomoni, Alessandro Gambetti, Davide Melandi, Mirko Piaggese, Daniela Salsi, Università di Bologna, Italy

Viewpoint Motion Control by Body Position in Immersive Projection Display
Kikuo Asai, Noritaka Osawa, Yuji Y. Sugimoto, National Institute of Multimedia Education, Japan
Yoshiaki Tanaka, Solidray Co., Ltd., Japan

Emergent Situations in Interactive Storytelling
Marc Cavazza, Fred Charles, Steven J. Mead, University of Teesside, UK

10:30 – NOON ROOM 4.0.F.16

SOFTWARE ENGINEERING: THEORY, APPLICATIONS AND PRACTICE - 1

Professor David Rine, George Mason University, USA

Reusable Subsystems: Domain-Based Approach
Hisham Haddad, Kennesaw State University, USA
Herbert Tesser, Marshall University, USA

Using an Object Oriented Model for Resolving Representational Differences between Heterogeneous Systems
Paul Young, Valdis Berzins, Jun Ge, Luqi, The Naval Post Graduate School, USA

Behavioral Pattern Analysis: Towards a New Representation of Systems Requirements Based on Actions and Events
Assem El-Ansary, Emergent Technologies, USA

Evaluating Collaborative Software in Supporting Organizational Learning with Bayesian Networks
Mahmoud Elish, David C. Rine, Joel E. Foreman, George Mason University, USA

10:30 – NOON ROOM 4.0.E.02

COMPUTATIONAL SCIENCES

Professor S. Lakshmivarahan, University of Oklahoma, USA

Slide Edge Algorithm
Duy Huynh, University of Wisconsin - Parkside, USA.

Efficient Derivative Computations in Neutron Scattering via Interface Contraction
H. M. Bucker, Arno Rasch, Aachen University of Technology, Germany

A Procedure to Model the Frequency Response
J. Pleite, E. Olias, A. Barrado, A. Lazaro, J. Vazquez, Universidad Carlos III de Madrid, Spain
10:30 – NOON  
**SALON DE GRADOS**

**ELECTRONIC BOOKS FOR TEACHING AND LEARNING**
*Professor Monica Landoni and Ignacio Aedo*

**Advanced Modelling and Browsing of Technical Documents**
François Bry, Michael Kraus, Institute of Computer Science, Germany

**From Collective Knowledge to eBooks**
Ruth Cobos, Xavier Alamán, Universidad Autónoma de Madrid, Spain

**The "look and feel" of an Ebook: Considerations in Interface Design**
Ruth Wilson, University of Strathclyde, UK

**Development of a Standard Format for eBooks**
Won-Sung Sohn, Seung-Kyu Ko, Yoon-Chul Choy, Yonsei University, South Korea
Kyong-Ho Lee, National Institute of Standards and Technology, USA
Sung-Hyuk Kim, Soon-Bum Lim, Sookmyung Women's University, South Korea

10:30 – NOON  
**ROOM 4.0.D.01**

**WEB AND E-BUSINESS APPLICATIONS - 1**
*Professor Letizia Tanca, Politecnico di Milano, Italy*

**An Authorization Model for Temporal XML Documents**
Sabrina De Capitani di Vimercati, Università di Brescia, Italy

**A Java Based XML Browser for Consumer Devices**
Petri Vuorimaa, Teemu Ropponen, Niklas von Knorring, Mikko Honkala, Helsinki University of Technology, Finland

**Migrating Data-Intensive Web Sites into the Semantic Web**
Ljiljana Stojanovic, Nenad Stojanovic, Raphael Volz, University of Karlsruhe, Germany

**Wrapping-Oriented Classification of Web Pages**
Valter Crescenzi, Paolo Merialdo, Università di Roma Tre, Italy
Giansalvatore Mecca, Università della Basilicata, Italy

10:30 – 3:00PM  
**ROOM 4.0.F.18**

**MULTIMEDIA AND VISUALIZATION -1**
*Professor Jose Martinez, Institut de Recherche en Informatique de Nantes*

**A Proxy-based Adaptive Flow Control Scheme for Media Streaming**
Chung-Ming Huang, Tz-Heng Hsu, Chi-Kuang Chang, National Cheng Kung University, Taiwan

**Smoothed Fetching: Bridging the Data Layout and Transmission Schemes in Multimedia Servers**
Sooyong Kang, Heon Y. Yeom, Seoul National University, Korea

**A Mesh Update Requirement for Hierarchical Adaptive Meshes in Mesh-Based Motion Tracking**
Alfred Yu, Wael Badawy, The University of Calgary, Canada

**Node Splitting Algorithms in Tree-Structured High-Dimensional Indexes for Similarity Search**
Yongjian Fu, Jui-Che Teng, S. R. Subramanya, University of Missouri-Rolla, USA

1:30 – 3:00PM  
**ROOM 4.0.E.02**

**COMPUTER SECURITY - 1**
*Professor Ronaldo Menezes, Florida Tech, Florida, USA*

**Authenticated Multicast Immune to Denial-of-Service Attack**
Shouhuai Xu and Ravi Sandhu, George Mason Univ., USA

**Service Specific Anomaly Detection for Intrusion Detection**
Christopher Kruegel and Thomas Toth, Distributed Systems Group, Technical University of Vienna, Austria

**Learning Temporal Patterns for Anomaly Intrusion Detection**
Alexandr Selenzov and Oleksiy Mazhelis, University of Jyvaskyla, Finland
1:30 – 3:00PM  
**SALON DE GRADOS**

**BIOINFORMATICS - 1**  
*Professor Albert Berger, Medical Research Council, Human Genetics Unit, Edinburgh, UK*

NetAffx: Affymetrix Probeset Annotations  
Guoying Liu, Ann E. Loraine, Ron Shigeta, Melissa Cline, Jill Cheng, Stephen Cervitz, David Kulp, Michael A. Siani-Rose, Affymetrix Inc., USA

A Hypothesis Driven Approach to Condition Specific Transcription Factor Binding Site Characterization in S.c.  
Rhonda Harrison, MIT, USA  
Charles DeLisi, Boston University, USA

An Intelligent Biological Information Management System  
Mathew Palakal, Snehasis Mukhopadhyay, Indiana University Purdue University, USA  
Javed Mostafa, Indiana University, USA

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1:30 – 3:00PM  
**ROOM 4.0.D.01**

**WEB AND E-BUSINESS APPLICATIONS - 2**  
*Professor Sara Comai, Politecnico di Milano, Italy*

Dynamically Generating Web Application Fragments from Page Templates  
Uwe Zdun, University of Essen, Germany

A Framework for Automatic Generation of Web-Based Data Entry Applications Based on XML  
Volker Turau, University of Applied Sciences, Germany

A Cost-Oriented Methodology for the Design of Web-Based IT Architectures  
Danilo Ardagna, Chiara Franchalanci, Politecnico di Milano, Italy

Content Management on Server Farm with Layer-7 Routing  
Mon-Yen Luo, Chu-Sing Yang, Chun-Wei Tseng, National Sun Yat-Sen University, Taiwan

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3:00 – 3:30PM  
**TEACHER CAFETERIA**  
**COFFEE BREAK**

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3:30 – 5:00PM  
**ROOM 4.0.F.16**

**PROGRAMMING LANGUAGES AND OBJECT TECHNOLOGIES - 2**  
*Professor Marjan Mernik, University of Maribor, Slovenia*

On Optimal Temporal Locality of Stencil Codes  
Claudia Leopold, Friedrich-Schiller-Universitat Jena, Germany

Evaluating the use of Profiling by a Region-based Register Allocator  
Kameswari V. Garigipati, Cindy Norris, Appalachian State University, USA

Concurrency Control for Distributed Cooperative Engineering Applications  
Joao Garcia, Paulo Ferreira, INESC ID/IST, Portugal

Verification Caching: Towards Efficient and Secure Mobile Code Execution Environments  
Nael Abu-Ghazaleh, Binghamton University, USA  
Dhananjay S. Phatak, University of Maryland, USA

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3:30 – 5:00PM  
**ROOM 4.0.F.18**

**MULTIMEDIA AND VISUALIZATION -2**  
*Professor J.A. Velazquez-Iturbide, Universidad Rey Juan Carlos, Madrid, Spain*

Approaches to Comprehension-Preserving Graphical Reduction of Program Visualizations  
F. Naharro-Berrocal, Univ. Politecnica de Madrid, Spain  
C. Pareja-Flores, Univ. Complutense de Madrid, Spain  
J. Urquiza-Fuentes, J.A. Velazquez-Iturbide, Univ. Ray Juan Carlos, Spain

Dynamic Structuring of Web Information for Access Visualization  
Jess Y.S. Mak, Hong Va Leong, Alvin T.S. Chan, Hong Kong Polytechnic University, China

Transparency for Polygon Based Cloud Rendering  
Andrzej Tremblinski, Andreas Brobler, Institut fur Graphische Datenverarbeitung, Germany

Browsing Image Databases with Galois' Lattices  
Jose Martinez, Erwan Loisant, Institut de Recherche en Informatique de Nantes

An Efficient Implementation of Parametric Line and Polygon Clipping Algorithm  
Mingjun Zhang, PRI Automation, USA  
Chaman L. Sabharwal, University of Missouri, USA

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3:30 – 5:00PM  
**ROOM 4.0.E.02**

**COMPUTER SECURITY - 2**  
*Professor James Whittaker, Florida Tech, Florida, USA*

Implementation of Fast RSA Key Generation on Smart Cards  
Chenghuai Lu, Andre L. M. dos Santos, Georgia Institute of Technology, USA  
Francisco L. R. Pimentel, Universidade Federal do Ceara, Brazil

Grammar Based Off line Generation of Disposable credit card Numbers  
Abhishek Singh, Andre dos Santos, Georgia Institute of Technology, USA
Checking Security of Java Bytecode by Abstract Interpretation
Roberto Barbuti, Cinzia Bernardeschi and Nicoletta De Francesco, Universita di Pisa, Italy

Security Status Display and Browser Interframe Communication
Larry Dunning and Sub Ramakrishnan, Bowling Green State University, USA

3:30 – 5:00PM      SALON DE GRADOS
BIOINFORMATICS - 2
Professor Hasan Jamil, Mississippi State University, USA
Short Inversions and Conserved Gene Clusters
David Sankoff, University of Montreal, Canada
BIOMIND-Protein Property Prediction by Property Proximity Profiles
Deendayal Dinakarpandian, Vijay Kumar, University of Missouri, Kansas City, USA
Optimal Algorithms for Local Vertex Quartet Cleaning
Gianluca Della Vedova, Universita degli Studi Milano, Italy H. T. Wareham, Memorial Univ. of Newfoundland, Canada

3:30 – 5:00PM      ROOM 4.0.D.01
WEB AND E-BUSINESS APPLICATIONS - 3
Professor Volker Turau, FH Wiesbaden Fachbereich Informatik, Germany
User Adaptive Content Delivery Mechanism on the World Wide Web
T. Nakano, K. Harumoto, S. Shimojo, S. Nishio, Osaka University, Japan
Optimizing Relational Store for E-Catalog Queries: A Data Mining Approach
Min Wang, IBM T.J. Watson Research Center, USA
Xiaoyang Sean Wang, George Mason University, USA
Application Run Time Estimation: A Quality of Service Metric for Web-based Data Mining Services
Shonali Krishnaswamy, Arkady Zaslavsky, Monash University, Australia
Seng Wai Loke, RMIT University, Australia
An Agreement Centric Access Control Mechanism for Business to Business E-Commerce
Victoria Ungureanu, Rutgers University, USA

5:30 – 7:00PM      ROOM 4.0.F.18
SIGAPP BUSINESS MEETING

7:00PM      ROOM 4.0.F.18
TRACK CHAIRS PLANNING MEETING
Soft Constraints Propagation and Solving in CHRs
S. Bistarelli, Istituto per le Applicazioni Telematiche, Italy
T. Fruehwirth, and M. Marte, Ludwig-Maximilians-Universitat Muenchen, Germany

Executable Declarative Business Rules and Their Use in Electronic
G. Antoniou, University of Bremen, Germany
M. Arief, Griffith University, Australia

Simulating Evolutionary Ant Colonies with OOCsmp
M. Alfonseca, Universidad Autonoma de Madrid, Spain
Juan de Lara, McGill University Montreál, Québec, Canada

An Effective Document Clustering Method using User-Adaptable Distance Metrics
Han-joon Kim and Sang-goo Lee, Seoul National University, Korea

10:30 – NOON ROOM 4.0.E.02
APPLICATIONS OF SPATIAL SIMULATION OF DISCRETE ENTITIES
Professor Boleslaw Szymanski, Rensselaer Polytechnic Institute, USA

A Mobility and Traffic Generation Framework for Modeling and Simulating Ad hoc Communication Networks
Chris Barrett, Madhav V. Marathe, James P. Smith, Los Alamos National Laboratory, USA
S. S. Ravi, University at Albany - SUNY, USA

Individual-based Simulation of the Clustering Behaviour of Epidermal Growth Factor Receptors
Jacki P. Goldman, William J. Gullick, Colin G. Johnson, University of Kent, UK
Dennis Bray, University of Cambridge, UK

Statistical Properties of the Simulated Time Horizon in Conservative Parallel Discrete-Event Simulations
G. Korniss, H. Guclu, Rensselaer Polytechnic Institute, USA
M. A. Novotny, A. K. Kolakowska, Mississippi State University, USA

Scalable, Efficient Epidemiological Simulation
Stephen Eubank, Los Alamos National Laboratory, USA

10:30 – NOON ROOM 4.0.D.01
INTER-DISCIPLINARY APPROACHES TO THE DESIGN OF DEPENDABLE COMPUTER SYSTEMS - 1
Professor John Dobson, Newcastel University, UK

Limits in Modelling Evolving Computer-Based Systems
Massimo Felici, Juliana Kuster Felipe, University of Edinburgh, UK

Contradictions and Critical Issues During System Evolution
Mark-Alexander Sujan, University of Karlsruhe, Germany
Antonio Rizzo, University of Siena, Italy
Alberto Pasquini, ENEA CR Casaccia, Italy

Modelling Organisational Practice in User Requirements
Corin Gurr, Gillian Hardstone, University of Edinburgh, UK

Fitting Standard Software to Non-Standard Organisations
Neil Pollock, James Cornford, University of Newcastle upon Tyne, UK

10:30 – NOON ROOM 4.0.D.01
EVOLUTIONARY COMPUTING AND OPTIMIZATION - 1
Professor Roger L. Wainwright, University of Tulsa, USA

Finding Maximum Independent Sets in Graphs Arising from Coding Theory
Sergiy Butenko, Panos Pardalos, University of Florida, USA
Ivan Sergienko, Vladimir Shylo, Petro Stetsyuk, NAS of Ukraine, Ukraine

Initialization is Robust in Evolutionary Algorithms that Encode Spanning Trees as Sets of Edges
Bryant Julstrom, St. Cloud State University, USA
Guenter Raidl, Vienna University of Technology, Austria

Co-Evolving an Effective Fitness Sample: Experiments in Symbolic Regression and Distributed Robot Control
Brad Dolin, Stanford University, USA
Forrest H Bennett III, Pharmix Corporation, USA
Eleanor G. Rieffel, FX Palo Alto Laboratory, USA

Local Search with Annealing-like Restarts to Solve the Vehicle Routing Problem with Time Windows
Haibing Li, Andrew Lim, National University of Singapore, Singapore

NOON – 1:30PM TEACHER CAFETERIA
GENERAL LUNCHEON

1:30 – 3:00PM ROOM 4.0.F.16
SOFTWARE ENGINEERING: THEORY, APPLICATIONS AND PRACTICE - 3
Professor Rosemary Monahan, U.N.I Maynooth, Ireland

Using XML to Implement Abstraction for Model Checking
Maria del Mar Gallardo, Jesus Martinez, Pedro Merino, Estefania Rosales, Universidad de Spain, Spain

Using UMLsec and Goal Trees for Secure Systems Development
Jan Jurjens, University of Oxford, UK
Investigating Software Measures to Improve Product Reliability
D. Lawson, G. Coleman, Dundalk Institute of Tech. Ireland

Strategies for Personal Process Improvement A Comparison
Rory O'Connor, Dublin City University, Ireland
Gerry Coleman, Dundalk Institute of Technology, Ireland

1:30 – 3:00PM ROOM 4.0.F.18
NEURO-FUZZY APPLICATIONS
Professor Ernesto Damiani, Università di Milano - Polo di Crema, Italy

Active Electronic-Mail
S. Karnouskos, FOKUS-GMD, Germany
A Vasilakos, ICS-FORTH, Heraklion, Greece

About Possibilistic Queries Against Possibilistic Databases
P. Bosc, O.Pivert, IRISA/ENSSAT, France
L.Duval, ENSAI, France

Hybridizing Hierarchical and Weighted Linguistic Rules
R. Alcalà, University of Jaén, Spain
J. Casillas, O. Cordon, F. Herrera, Univ. of Grenada, Spain
I. Zwir, University of Buenos Aires, Argentina

1:30 – 3:00PM ROOM 4.0.E.02
COMPUTER SECURITY - 3
Professor Andre dos Santos, Georgia Tech, Atlanta, GA, USA

Neutralizing Windows-Based Malicious Mobile Code
James Whittaker and Andreas De Vivanco, Florida Institute of Technology, USA

Interactive Simulation of Security Policies
Giampaolo Bella, Universita di Catania, Italy

Collaborative Attack Modeling
Jan Steffan and Markus Schumacher, Darmstadt University of Technolo, Germany

Software security vulnerability testing in hostile environments
Herbert Thompson, James Whittaker and Florence Mottay, Florida Institute of Technology, USA

1:30 – 3:00PM SALON DE GRADOS
INTER-DISCIPLINARY APPROACHES TO THE DESIGN OF DEPENDABLE COMPUTER SYSTEMS - 2
Professor Rob Procter, University of Edinburgh, UK

Configuring Software, Reconfiguring Memories: The Influence of Integrated Systems on Knowledge Storage, Retrieval and Reuse
Luciana D’Adderio, University of Edinburgh, UK

Lessons From Industrial Design for Software Engineering Through Constraints Identification, Solution Space Optimisation and Reuse
Denis Besnard, Anthony T. Lawrie, University of Newcastle upon Tyne, UK

Augmenting Descriptive Scenario Analysis for Improvements in Human Reliability Design
Shamus Smith, Michael Harrison, University of York, UK

A Task-Based Security Model to Facilitate Collaboration in Trusted Multi-Agency Networks
Salem Aljareh, Nick Rossiter, University of Newcastle upon Tyne, UK

1:30 – 3:00PM ROOM 4.0.D.01
EVOLUTIONARY COMPUTING AND OPTIMIZATION - 2
Professor Giovanni Squillero, Politecnico di Torino, Italy

Acquisition of Modulation Pulses for a Multi-Robot System Using Genetic Algorithm
George N. Nyakoe, Makoto Ohki, Suichiro Tabuchi, Masaaki Ohkita, Tottori University, JAPAN

An Agent Based Approach to Site Selection for Wireless Networks
Steve Hurley, Roger M. Whitaker, Cardiff University, UK.

Nelishia Pillay, University of Natal, South Africa

Learning the Risk Board Game with Classifier Systems
Átila Neves, Osvaldo Brasão, Agostinho Rosa, Technical University of Lisbon, Portugal

3:00 – 3:30PM TEACHER CAFETERIA
COFFEE BREAK

3:30 – 5:00PM ROOM 4.0.F.16
DECLARATIVE DATA MINING
Professor Hasan Jamil, Mississippi State University, USA

Mining Interesting Regions using an Evolutionary Algorithm
Jose Luis Alvarez, Jacinto Mata, Universidad de Huleva, Spain
Jose Cristobal Riquelme, Universidad de Sevilla, Spain
A New Cell-based Clustering Method for Large, High-Dimensional Data in Data Mining Applications
Jae-Woo Chang, Chonbuk National University, South Korea
Du-Seok Jin, Korea Institute of Science and Technology, South Korea

A Framework for Data Mining and KDD
Ingolf Geist, University of Magdeburg, Germany

Hyperrelations in Version Space
Hui Wang, Ivo Düntsch, University of Ulster, Ireland
Guenther Gediga, Institut für Evaluation und Marktanalysen, Germany
Andrzej Skowron, University of Warsaw, Poland

3:30 – 5:00PM ROOM 4.0.F.18
STANDARDISATION IN IT
Professor Kai Jakobs, Technical University of Aachen, Germany

Inter-Organizational Document Exchange - Facing the Conversion Problem with XML
Luis Martin Díaz, Erik Wüstner, Peter Buxmann, Freiberg University of Technology, Germany

Standardising the Business Vocabulary of Standards
Eva Söderström, University of Skövde, Sweden

Cathedrals, Libraries and Bazaars
Ken Krechmer, Communications Standards Review, USA

3:30 – 5:00PM ROOM 4.0.E.02
COMPUTER SECURITY - 4
Professor Giampaolo Bella, Università di Catania, Italy

Proxy-based security protocols in networked mobile devices
Matthew Burnside, Dwaine Clarke, Todd Mills, Srinivas Devadas and Ronald Rivest, MIT, USA

Arslan Bromme, Marcel Kronberg, Oliver Ellenbeck and Oliver Kasch, University of Hanburg, Germany

Experimenting with STA, a Tool for Automatic Analysis of Security Protocols
Michele Boreale, Università di Firenze, Italy
Marzia G. Buscemi Università di Catania, Italy

3:30 – 5:00PM SALON DE GRADOS
PARALLEL AND DISTRIBUTED SYSTEMS AND NETWORKING - 1
Professor Tomàs Margalef, Computer Science Department, Universitat Autònoma de Barcelona, Spain

Analysis of Distributed Routing Balancing Behavior
Indhira Garcés, Universidad de Extremadura, Spain
Daniel Franco, Universitat Autònoma de Barcelona, Spain

Communication Delay in Wormhole-Routed Torus Networks
A. Shahrabi, M. Ould-Khaoua, L. M. Mackenzie, Glasgow University, UK.

Probability Vectors: A New Fault-Tolerant Routing Algorithm for k-Ary n-Cubes
J. Al-Sadi, M. Ould-Khaoua, Glasgow University, UK
K. Day, Sultan Qaboos University, Sultanate of Oman

A Simple Mathematical Model of Adaptive Routing in Wormhole k-Ary n-Cubes
H. Sarbazi-Azad, M. Ould-Khaoua, University of Glasgow, U.K.

3:30 – 5:00 ROOM 4.0.D.01
EVOLUTIONARY COMPUTING AND OPTIMIZATION - 3
Professor Guenther R. Raidl, Vienna University of Technology, Austria

An Evolutionary Algorithm to Discover Numeric Association Rules
Jacinto Mata, José L. Alvarez, Universidad de Huelva, Spain
José C. Riquelme, Universidad de Sevilla, Spain

Issues in Parallelizing Multiobjective Evolutionary Algorithms for Real World Applications
David A. Van Veldhuizen, Wright Patterson Air Force Base, USA
Jesse B Zydallis, Gary B. Lamont, Air Force Institute of Technology, USA

Particle Swarm Optimization Method in Multiobjective Problems
Konstantinos E. Parsopoulos, Michael N. Vrahatis, University of Patras, Greece

An Evolutionary Algorithm for Reducing Integrated-Circuit Test Application Time
F. Corno, M. Sonza Reorda, G. Squillero. Politecnico di Torino, Italy

5:30 – 7:00PM ROOM 4.0.F.18
SAC 2003 ORGANIZATION MEETING

7:00PM CORRAL DE LA PACHECA
SAC 2002 BANQUET AND SHOW
THURSDAY MARCH 14, 2002

8:00AM – NOON REGISTRATION AREA
REGISTRATION

8:30 – 10:00PM ROOM 4.0.F.16
COORDINATION MODELS, LANGUAGES AND APPLICATIONS - 1
Professor Sascha Ossowski, Universidad Rey Juan Carlos, Spain

Monitoring and Synchronization for Teamwork
Sherief M. Abdallah, Nevin M. Darwish, Osman M. Hegazy, Cairo University, Egypt

A Coordination Mechanism for Just-In-Time Production and Distribution
Paul Davidsson and Fredrik Wernstedt, Blekinge Institute of Technology, Sweden

Unstructured Agent Matchmaking: Experiments in Timing and Fuzzy Matching
Elth Ogston and Stamatis Vassiliadis, Delft University of Technology, The Netherlands

Semi-Automatic Design of Agent Organizations
Anthony Karageorgos and Nikolay Mehandjiev, University of Manchester, UK
Simon Thompson, BT Exact Technologies, UK

8:30 – 10:00PM ROOM 4.0.F.18
INFORMATION ACCESS AND RETRIEVAL SYSTEMS - 1
Professor Fabio Crestani, University of Strathclyde, UK

Evaluating Cost-Sensitive Unsolicited Bulk Email Categorization
J.M. Gómez Hidalgo, Universidad Europea CEES, Spain

Benefits of Document Maps for Text Access in Knowledge Management: A Comparative Study
A. Becks, Fraunhofer Institute for Applied Information Technology FIT, Germany
C. Seeling, RWTH Aachen, Germany
R. Minkenberg, Repges & Partner GmbH, Germany

Multiple Related Document Summary and Navigation using Concept Hierarchies for Mobile Clients
D.L. Chan, R.W.P. Luk, W.K. Mak, H.V. Leong, E.K.S. Ho, Q. Lu, Hong Kong Polytechnic University, China

8:30 – 10:00PM ROOM 4.0.E.02
AGENTS, INTERACTIONS, MOBILITY, AND SYSTEMS - 1
Professor Sviatoslav Braynov

Computational adjustable autonomy for NASA Personal Satellite Assistant
H. Hexmoor and J. T Vaughn, University of Arkansas, USA

The Agent-Based Programming Language: APL
Chang-Hyun Jo and A. J. Arnold, Univ. of N. Dakota, USA

Software Update via Mobile Agent Based Programming
Lorenzo Bettni, Rocco De Nicola, and Michele Loreti, Universita di Firenze, Italy

Meta-models for Building Multi-Agent Systems
Jorge J. Gomez-Sanz and Juan Pavon, Universidad Complutense de Madrid, Spain
Francisco Garrio, Telefonica I+D, Spain

8:30 – 10:00AM SALON DE GRADOS
PARALLEL AND DISTRIBUTED SYSTEMS AND NETWORKING - 2
Professor Emilio Luque, Computer Science Department, Universitat Autonoma de Barcelona, Spain

Towards A Scalable Broadcast in Wormhole-Switched Mesh Networks
A. Y. Al-Dubai, M. Ould-Khaoua, L. M. Mackenzie, University of Glasgow, U.K.

Response Order Rearrangement on a Caching Proxy for Reducing WWW Latency
Hiroshi Fujimoto, Tadashi Niiyano, Kaname Harumoto, Shojiro Nishio, Osaka University, Japan.

AODV Compatible Routing with Extensive Use of Cache Information in Ad-hoc Networks
Wooi-Ghee Wang, Takahiro Hara, Masahiko Tsukamoto, Shojiro Nishio, Osaka University, Japan

Cycle Embedding in Faulty Hierarchical Cubic Networks
Jung-Sheng Fu, Takming College, TAIWAN
Gen-Huey Chen, National Taiwan University, TAIWAN

8:30 – 10:00AM ROOM 4.0.D.01
DATABASE AND DIGITAL LIBRARY TECHNOLOGIES - 1
Professor Albrecht Schmidt, CWI

Mobile Delivery of News Using Hierarchical Query-Biased Summaries
S.O. Sweeney, F. Crestani, University of Strathclyde, UK
A. Tombros, University of Glasgow, UK
Temporal Query Operators in XML Databases
Kjetil Norvag, Norwegian University of Science and Technology, Norway

Bulkloading and Maintaining XML Documents
Albrecht Schmidt, Martin Kersten, CWI, The Netherlands

Decision Tree Classification of Spatial Data Streams Using Peano Count Trees
Qiang Ding, Qin Ding, William Perrizo, North Dakota State University, USA

SESAM - Searching Supported by Analysis of Metadata
Jon Olav Hauglid, Roger Midtstraum, Norwegian University of Science and Technology, Norway

10:00 – 10:30AM
TEACHER CAFETERIA
COFFEE BREAK

10:30 – NOON
ROOM 4.0.F.16
COORDINATION MODELS, LANGUAGES AND APPLICATIONS - 2
Professor Paul Davidsson, Blekinge Institute of Technology, Sweden

A Comprehensive Model for Arbitrary Result Extraction
Neal Sample and Gio Wiederhold, Stanford University, USA
Dorothea Beringer, Hewlett-Packard, USA

A Uniform Meta-Model for Modeling Integrated Cooperation
Guangxin (Gavin) Yang, Lucent Technologies, USA

CovaTM: A Transaction Model for Cooperative Applications
Jinlei Jiang, Yan Wu, Melliin Shi, Tsinghua University, China
Guangxin (Gavin) Yang, Lucent Technologies, USA

Coordination Middleware for XML-centric Applications
Paolo Ciancarini, Universita di Bologna, Italy
Robert Tolksdorf, TU Berlin, Germany
F. Zambonelli, Universita di Modena e Reggio Emilia, Italy

10:30 – NOON
ROOM 4.0.F.18
INFORMATION ACCESS AND RETRIEVAL SYSTEMS - 2
Professor Gabriella Pasi, Institute for Multimedia Technologies, Italy

Incremental Adaptive Filtering: Profile Learning and Threshold Calibration
M. Boughanem, M. Tmar, Campus University Toulouse III, France

Hierarchical Presentation of Expansion Terms
H. Joho, C. Coverson, M. Sanderson, M. Beaulieu, University of Sheffield, UK

Exploiting Contextual Change in Context-Aware Retrieval
P. J. Brown, G. J. F. Jones, University of Exeter, UK

Using Genetic Algorithms to Find Suboptimal Retrieval Expert Combinations
H. Billhardt, Universidad Rey Juan Carlos, Spain
D. Borrajo, Universidad Carlos III, Spain
V. Maojo, Universidad Politécnica de Madrid, Spain

10:30 – NOON
ROOM 4.0.E.02
AGENTS, INTERACTIONS, MOBILITY, AND SYSTEMS - 2
Professor Henry Hexmoor, University of Arkansas, USA

Differences Between the Iterated Prisoner's Dilemma and the Chicken Game under Noisy Conditions
Bengt Carlsson, Blekinge Institute of Technology, Sweden
K. Ingemar Jonsson, Lund University - Sweden

Personalizing Information Gathering for Mobile Database Clients
Susan Weissman Lauzac, University of Puget Sound, USA
Panos K. Chrysanthis, University of Pittsburgh, USA

A Heuristic Approach for Solving Decentralized-POMDP: Assessment on the Pursuit Problem
Iadine Chades, Bruno Scherrer, and Francios Charpillet, LORIA-INRIA, France

An Automated Negotiation Mechanism Based on Co-Evolution and Game Theory
J.H. Chen, K. M. Chao, N. Godwin, C. Reeves, Coventry University, UK

10:30 – NOON
SALON DE GRADOS
PARALLEL AND DISTRIBUTED SYSTEMS AND NETWORKING - 3
Professor Tomàs Margalef, Computer Science Department, Universitat Autonoma de Barcelona, Spain

Grid-Enabled Parallel Divide-and-Conquer - Theory and Practice
Chun-Hsi Huang, University of Connecticut, USA

DEVoP: A Distributed Architecture Supporting Heuristic and Metaheuristic Optimization Methods
Eder N. Mathias, Celso Maciel da Costa, Fernando L. Dotti, Pontificia Universidade Católica, Brazil
Felipe M. Muller, Universidade Federal de Santa Maria – UFSM, Brazil

Automatic Code Generation for Executing Tiled Nested Loops onto Parallel Architectures
Georgios Goumas, Maria Athanasaki, Nectarios Koziris, National Technical University of Athens, Greece
HTTP Redirection for Replica Catalogue Lookups in Data Grids  
Heinz Stockinger, University of Vienna, Austria  
Andrew Hanushevsky, Stanford University, USA

10:30 – NOON  
**ROOM 4.0.D.01**

**DATABASE AND DIGITAL LIBRARY TECHNOLOGIES - 2**  
*Professor Brajendra Panda, University of Arkansas, USA*

The P-tree Structure and its Algebra  
Qin Ding, Maleq Khan, Amalendu Roy, William Perrizo, North Dakota State University, USA

The Syntactic and semantic correctness of pictorial configurations to query geographic databases by PQL  
Fernando Ferri, ISRDS – CNR, Italy, E. Pourabbas, M. Rafanelli, IASI-CNR, Italy

Shape-Based Retrieval of Similar Subsequences in Time-Series Databases  
Sang-Wook Kim, Kangwon national University  
Jeehee Yoon, Tae-Hoon Kim, Hallym University  
Sanghyun Park, IBM T.J. Watson Research Center

Extended Data Dependency Approach - A Robust Way of Rebuilding Database  
Brajendra Panda, University of Arkansas, USA  
Kazi A. Haque, University of North Dakota, USA

NOON – 1:30PM  
**TEACHER CAFETERIA**  
**GENERAL LUNCHEON**

1:30 – 3:00PM  
**ROOM 4.0.F.16**

**COORDINATION MODELS, LANGUAGES AND APPLICATIONS - 3**  
*Professor Robert Tolksdorf, TU Berlin, Germany*

Towards Scalability in Tuple Spaces  
Philipp Obreiter, and Guntram Gräf, Universitat Karlsruhe, Germany

Formal Verification of Replication on a Distributed Data Space Architecture  
Jozef Hooman, University of Nijmegen, The Netherlands  
Jaco van de Pol, CWI, The Netherlands

On the Serializability of Transactions in Shared Dataspaces with Temporary Data  
Nadia Busi and Gianluigi Zavattaro, Universita di Bologna, Italy

Three Approaches to the Coordination of Multiagent Systems  
Federico Bergenti, Universita di Parma, Italy  
Alessandro Ricci, Universita di Bologna, Italy

1:30 – 3:00PM  
**ROOM 4.0.F.18**

**INFORMATION ACCESS AND RETRIEVAL SYSTEMS - 3**  
*Professor Fabio Crestani, University of Strathclyde, UK*

Structured Information Retrieval in XML Documents  
E. Kotsakis, Joint Research Center, Italy

A Structured Documents Retrieval Method Supporting Attribute-based Structure Information  
S. Ko, Y. Choy, Yonsei University, Korea

Flexible Querying of WEB Documents  
G. Bordogna, G. Pasi, ITM-CNR, Italy

Reordering B-tree Files  
S. Watanabe, T. Miura, Hosei University, Japan

1:30 – 3:00PM  
**ROOM 4.0.E.02**

**AGENTS, INTERACTIONS, MOBILITY, AND SYSTEMS - 3**  
*Professor Niranjan Suri*

Agent-based Mobility add-in feature for Object Transaction Service (OTS)  
Hoang Pham Huy and Simone Sedillot, INRIA, France

Certificates for Mobile Code Security  
H. Kim Tan and L. Moreau, University of Southampton, UK

Blinded-Key Signatures: securing private keys embedded in mobile agents  
Lucas de Carvalho Ferreira and Ricardo Dahab, Universidade Estadual de Campinas, Unicamp, Brazil

Compiler Optimizations for Java Aglets in Distributed Data Intensive Applications  
Abhishek Singh and Santosh Pande, Georgia Institute of Technology, USA

1:30 – 3:00PM  
**SALON DE GRADOS**

**PARALLEL AND DISTRIBUTED SYSTEMS AND NETWORKING - 4**  
*Professor Emilio Luque, Computer Science Department, Universitat Autonoma de Barcelona, Spain*

A Parallel Index for Semistructured Data  
Brian F. Cooper, Neal Sample, Stanford University, USA  
Moshe Shadmon, RightOrder Inc., USA

Dynamic Memory Allocation Strategies for Parallel Query Execution  
F. Morvan, A. Hameurlain, Université Paul Sabatier, France

Load Balancing for the Management of Service Performance in Open Service Markets: a Customer-Oriented Approach  
Dirk Thissen, Aachen University of Technology, Germany
1:30 – 3:00PM

DATABASE AND DIGITAL LIBRARY TECHNOLOGIES - 3

Professor Kjetil Norvag, INRIA

Sharing Scientific Models in Environmental Applications
M. Cavalcanti, M. Mattoso, COPPE Sistemas – UFRJ, Brazil
Maria Luiza Campos, DCC UFRJ, Brazil
Francois Llirbat, Eric Simon, INRIA, France

Interactive Querying in Web-Based Database Applications
R. Haraty, M. Hamdoun, Lebanese American Univ., Lebanon

Elicitation and Conversion of Hidden Objects and Restrictions in a database Schema
Laura C. Rivero, Jorge H. Doorn, Viviana E. Ferragigne, B. A. Argentina, Argentina

Topological Mapping: A Dimensionality Reduction Method for Efficient Video Search
Zaher Aghbari, Kunihiko Kaneko, Akifumi Makinouchi, Kyushu University, Japan

3:00 – 3:30AM

TEACHER CAFETERIA

COFFEE BREAK

3:30 – 5:00PM

COORDINATION MODELS, LANGUAGES AND APPLICATIONS - 4

Professor Ronaldo Menezes, Florida Institute of Technology, Florida, US

An Infrastructure Language for Open Nets
Lorenzo Bettini, Michele Loreti, and Rosario Pugliese, Universita di Firenze, Italy

An Enablement Detection Algorithm for Open Multiparty Interactions
José A. Pérez, Rafael Corchuelo, David Ruiz, and Miguel Toro, Universidad de Sevilla, Spain

A Modular Approach to Building Event-based Systems
Ludger Fiege, Gero Mühl, and Felix C. Gärtner, Darmstadt University of Technology, Germany

Coordinating Functional Processes with Haskell#
F. H. Carvalho Jr., Rafael Dueire Lins, Universidade Federal de Pernambuco, Brazil
R. M. F. Lima, Superior de Olinda, Brazil

3:30 – 5:00PM

INFORMATION ACCESS AND RETRIEVAL SYSTEMS - 4

Professor Gabriella Pasi, Institute for Multimedia Technologies, Italy

Color-Based Image Retrieval Using Binary Signatures
M.A. Nascimento, V. Chitkara, University of Alberta, Canada

Color Patterns for Pictorial Content Description
D. Stan, I.K. Sethi, Oakland University, USA

Information Retrieval and Spelling Correction: an Inquiry into Lexical Disambiguation
P. Ruch, University Hospital of Geneva, Switzerland

3:30 – 5:00PM

AGENTS, INTERACTIONS, MOBILITY, AND SYSTEMS - 4

Professor Marcin Paprzycki

A Fault-Tolerant Directory Service for Mobile Agents based on Forwarding Pointers
Luc Moreau, University of Southampton, UK

Agent Factory: Generative Migration of Mobile Agents in Heterogeneous Environments
F.M.T. Brazier, B.J. Overeinder, M. van Steen, and N.J.E. Wijngaards, Vrije Universiteit, The Netherlands

Our Guest Agents are Welcome to Your Agent Platforms
Laurent Magnin, Viet Thang Pham, Arnaud Dury, Nicolas Besson, and Arnaud Thieffaine, Centre de recherche informatique de Montreal, Canada

Mobile agent systems with Java - Where are we heading?
Walter Binder, CoCo Software Engineering, Austria
Volker Roth, Fraunhofer IGD, Germany

3:30 – 5:00PM

PARALLEL AND DISTRIBUTED SYSTEMS AND NETWORKING - 5

Professor Juan Touriño, Dept. Electronics and Systems, University of A Coruña, Spain

Performance Analysis of MPI-I/O Primitives on a PC Cluster
Juan Touriño, Jacobo Barro, Ramon Doallo, Victor M. Gulias, University of A Coruña, Spain

Performance Evaluation For a Compressed-VLIW Processor
Sunghyun Lee, Chonan College, South Korea
Kannappan Palaniapan, University of Missouri, USA

A Particle Swarm Model for Swarm-based Networked Sensor Systems
B. Anthony Kadrovach, Gary B. Lamont, Air Force Institute of Technology, USA
3:30 – 5:00PM

DATABASE AND DIGITAL LIBRARY TECHNOLOGIES - 4

Professor Kurt Maly, Old Dominion University

A method for the dynamic generation of virtual versions of evolving documents
M. Mercedes Martinez, Pablo de la Fuente, Universidad de Valladolid, Spain
Jean-Claude Derniame, LORIA, France

DANA (Digital Archive Network for Anthropology) A Model For Digital Archiving
Jeffrey T. Clark, Brian M. Slator, Aaron Bergstrom, Francis Larson, Richard Frovarp, James E. Landrum III, William Perrizo, William Jockheck, North Dakota State University, USA

A Geolibrary for Multimedia Data Sets: Design and Implementation Issues
Claudio Souza Baptista, Universidade Federal da Paraiba, Brazil

DL-COTF: An XML Based Digital Library for U. S. Navy's Operational Test and Evaluation Force
K. Maly, M. Zubair, S. Balusani, A. Mathur, S. Sudeep, Old Dominion University, USA

5:30 – 7:00PM

SAC 2002 WRAP-UP MEETING

7:00PM

PARQUESUR HOTEL

SAC 2002 TRACK CHAIRS DINNER

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SAC 2003

Authors are invited to submit original papers in all areas of experimental computing and application development, and panel and workshop proposals that deal with the symposium themes via its various tracks. Submission categories include: Original and unpublished research work, Reports of innovative computing applications in the arts, sciences, engineering, and business areas, Reports of successful technology transfer to new problem domains, Reports of industrial experience and demos of new innovative systems, and Workshops, Panels and Posters. Submission guidelines and other information will be available SAC 2003 Website.

POTENTIAL TECHNICAL TRACKS

SAC 2003 potential track listing includes, but not limited to the following technical tracks:

A.I. and Computational Logic
Agents, Interactions, Mobility, and Systems
Spatial Simulation of Discrete Entities
Bioinformatics
Computational Sciences
Computer Security
Coordination Models, Languages and Applications
Database and Digital Library Technologies
Data Mining
Electronic Books
Evolutionary Computing and Optimization
Information Access and Retrieval
Design of Dependable Computer Systems
Multimedia and Visualization
Neuro-Fuzzy Applications
Parallel and Distributed Systems and Networking
Programming Languages and Object Technologies
Software Engineering
Standardisation in IT
Virtual Reality and Digital Media
Web and E-Business Applications
Others...

IMPORTANT DUE DATES

Sept. 6, 2002: Paper and tutorial submissions
Oct. 18, 2002: Author notification
Nov. 8, 2002: Camera-ready copy