

# CAiSE<sup>02</sup> Toronto, Canada

## The 14th International Conference on Advanced Information Systems Engineering

*"Web-Based Information Systems"*



May 27 – 31, 2002

## Final Programme

### Welcome to CAiSE'02

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Since the late 1980's, the CAiSE conferences have provided a forum for presentation and exchange of research results and practical experiences within the field of Information Systems Engineering.

The main theme of this year's CAiSE conference focuses on technologies and methodologies for building "Web-Based Information Systems". Web-based systems have become the status quo in information systems engineering practice in a very short time. This change poses significant challenges to the research community, such as faster time-to-market, increased concerns for security and performance, open and evolving software architectures and more.

CAiSE'02 is a special edition of the CAiSE conference series, being the first one to be held outside Europe. To celebrate the occasion, we have worked hard to put together an exceptional technical programme.

Of course, the technical programme is not the only attraction of the conference. The conference hotel is located in the core downtown area of Toronto, within walking distance of museums, parks, shopping areas and tourist attractions such as the CN tower, the Harbourfront or the Ontario Lake. Toronto has been called the most multicultural city in the world and while in Toronto, you will have the opportunity to visit neighborhoods that have the distinctive ethnic flavour of parts of the Far East and Europe. More than that, Toronto is a well-run, safe city that visitors enjoy visiting again and again.

We hope you enjoy the week !!

*M. Tamer Özsu*  
**General Chair**

*John Mylopoulos & Carson Woo*  
**Programme Co-Chairs**

*Jarek Gryz & Richard Paige*  
**Panel & Tutorial Co-Chairs**

*Patrick Martin*  
**Workshop and Poster Chair**

*Manuel Kolp*  
**Local & Publicity Chair**

*Anne Pidduck*  
**Proceedings Chair**

## CAiSE'02 Committees

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### Organization Committee

**General Chair :** *M. Tamer Özsu*, University of Waterloo, Canada

**Programme Co-Chairs:** *John Mylopoulos*, University of Toronto, Canada  
*Carson Woo*, University of British Columbia, Canada

**Panel and Tutorial Co-Chairs:** *Jarek Gryz*, College of William and Mary, USA  
*Richard Paige*, York University, Canada

**Workshop and Poster Chair:** *Patrick Martin*, Queen's University, Canada

**Local and Publicity Chair:** *Manuel Kolp*, University of Louvain, Belgium

**Proceedings Chair:** *Anne Pidduck*, University of Waterloo, Canada

### Programme Committee

Ken Barker (Canada)	Michele Missikoff (Italy)
Daniel Berry (Canada)	David Monarchi (USA)
Alex Borgida (USA)	Hausi Mueller (Canada)
Paul Bowen (Australia)	Oscar Nierstrasz (Switzerland)
Sjaak Brinkkemper (The Netherlands)	Andreas Oberweis (Germany)
Michael Brodie (USA)	Antoni Olive (Spain)
Christoph Bussler (USA)	Andreas L Opdahl (Norway)
Silvana Castano (Italy)	Maria Orłowska (Australia)
Jan Dietz (The Netherlands)	Maurizio Panti (Italy)
Johan Eder (Austria)	Mike Papazoglou (The Netherlands)
Marcel Franckson (France)	Jeff Parsons (Canada)
Mariagrazia Fugini (Italy)	Oscar Pastor (Spain)
	Barbara Pernici (Italy)

## CAiSE'02 Committees

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Antonio Furtado (Brazil)	Alain Pirotte (Belgium)
Andreas Geppert (Switzerland)	Dimitris Plexousakis (Greece)
Paolo Giorgini (Italy)	Klaus Pohl (Germany)
Martin Glinz (Switzerland)	T. Radhakrishnan (Canada)
Sol Greenspan (USA)	Sudha Ram (USA)
Alan Hevner (USA)	William Robinson (USA)
Juhani Iivari (Finland)	Colette Rolland (France)
Sushil Jajodia (USA)	Michel Scholl (France)
Keith Jeffery (UK)	Michael Schrefl (Australia)
Manfred Jeusfeld (The Netherlands)	Timos Sellis (Greece)
Hermann Kaindl (Austria)	Mike Shaw (USA)
Hannu Kangassalo (Finland)	Keng Siau (USA)
Gerti Kappel (Austria)	Jacob Slonim (Canada)
Steven Kimbrough (USA)	Arne Soelvborg (Norway)
Kostas Kontogiannis (Canada)	Veda Storey (USA)
Manolis Koubarakis (Greece)	Eleni Stroulia (Canada)
Alberto Laender (Brazil)	Alistair Sutcliffe (UK)
Julio Leite (Brazil)	Mohan Tanniru (USA)
Maurizio Lenzerini (Italy)	Bernhard Thalheim (Germany)
Michel Leonard (Switzerland)	Costantino Thanos (Italy)
Qing Li (China)	Aphrodite Tsalgatidou (Greece)
Marin Litoiu (Canada)	Yannis Vassiliou (Greece)
Peri Loucopoulos (UK)	Yair Wand (Canada)
Kalle Lyytinen (Finland)	Benkt Wangler (Sweden)
Neil Maiden (UK)	Tony Wasserman (USA)
Sal March (USA)	Christopher Welty (USA)
Pat Martin (Canada)	Roel Wieringa (The Netherlands)
Nancy R. Mead (USA)	Eric Yu (Canada)

## Programme Highlights

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**The keynote speakers.** CAiSE'02 welcomes three outstanding plenary speakers:

- ✓ *Dr. Michael Brodie* (Verizon, USA) on *Grand Challenges in Information Technology*
- ✓ *Prof. Mathias Jarke* (RWTH Aachen, Germany) on *Metadata and Knowledge Management*
- ✓ *Dr. Christopher Welty* (IBM Watson Research Center) on *Ontologies*

**The technical papers.** The main programme includes 42 high quality full papers, selected from 173 submissions and 24 short papers reporting on a full range of topics, including Web Applications, Web Services, Knowledge Management, Data Semantics, Ontologies, Data Integration, System Qualities, Requirements Issues, Workflows, and more.

**The panel sessions** aim to provide stimulating discussion of interesting issues related to web-based information systems:

- ✓ Managing Web Content
- ✓ Web Information Systems Engineering

**The workshops** on Monday and Tuesday provide a forum for groups of researchers and practitioners to meet for one or two days and to exchange opinions, ideas, and preliminary results on focused issues in an atmosphere that fosters interaction and problem solving. Six workshops are organized in conjunction with CAiSE'02

- ✓ Agent-Oriented Information Systems (AOIS'02)
- ✓ Data Integration over the Web (DIWeb'02)
- ✓ Web services, E-business and Semantic Web (WSeBT)
- ✓ Design and Management of Data Warehouses (DMDW'2002)
- ✓ Evaluation of Modeling Methods in Systems Analysis and Design (EMMSAD'02)
- ✓ Doctoral Consortium

## Programme Highlights

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**The tutorials** are on Monday. They provide the opportunity to gain new insights, knowledge, and skills. Two half-day tutorials are organized in conjunction with CAiSE'02

- ✓ The Application of Workflow Management Technology in Process-based B2B Integration (Christoph Bussler, Oracle Corporation)
- ✓ The Web-services Phenomenon: Concepts, Technologies, Current Trends & Research Directions (Michael Papazoglou, Tilburg University, The Netherlands)

**CAISE'02 at a Glance (Morning Sessions)**

	Monday 27 AM	Tuesday 28 AM	Wednesday 29 AM	Thursday 30 AM	Friday 31 AM
8:00 8:30	Registration				
8:30 9:00	Opening Session				
9:00 10:30	Keynote <i>Dr. Michael Brodie</i> (Verizon, USA) "The Grand Challenge in Information Technology and the Illusion of Validity"	Keynote <i>Prof. Dr. Matthias Jarke</i> (RWTH Aachen, Germany) "Metadata and Cooperative Knowledge Management"	Keynote <i>Dr. Christopher Welty</i> (IBM Watson Research Center, USA) "Ontology-Driven Conceptual Modeling"		
10:30 11:00	Coffee Break				
11:00 12:30	Paper Session 1 Developing Web Applications Paper Session 2 Knowledge Management	Paper Session 1 Developing Web Applications Paper Session 2 Knowledge Management	Paper Session 5 System Qualities Paper Session 6 Integration Issues	Paper Session 11 Workflows Paper Session 12 Semantics and Logical Representations	

	Monday 27 PM	Tuesday 28 PM	Wednesday 29 PM	Thursday 30 PM	Friday 31 PM
12:30 14:00	Lunch				
14:00 15:30	Paper Session 3 Deployment Issues Paper Session 4 Semantics of Information	Paper Session 3 Deployment Issues Paper Session 4 Semantics of Information	Paper Session 7 Analysis and Adaptation Paper Session 8 Retrieval and Performance	Paper Session 13 Understanding and Using Methods Paper Session 14 Modeling Objects and Relationships	
15:30 16:00	Coffee Break				
16:00 17:30	Panel Deployment Managing Web Content	Panel Deployment Managing Web Content	Paper Session 9 Requirements Issues Paper Session 10 Schema Matching and Evolution	Panel Web Information Systems Engineering	
17:30 18:00	Conference Dinner				
19:30 22:00	Closing Session				

**CAISE'02 at a Glance (Afternoon Sessions)**

**Monday 27 May****Workshops and Tutorials**

<b>8:00</b>	<b>Registration</b>	@ Mountbatten
<b>9:00</b>		Court
<b>09:00</b>	<b>Workshop WS1:</b>	@ Stevenson
<b>10:30</b>	Agent-Oriented Information Systems (AOIS'02)	
	<b>Workshop WS4 + 7 :</b>	@ Carlyle
	Web Services, E-business and Semantic Web	
	Workshop (WSeBT)	
	<b>Workshop WS5:</b>	@ Rosetti
	Design and Management of Data Warehouses	
	(DMDW'2002)	
	<b>Workshop WS6:</b>	@ Scott
	Evaluation and Modeling Methods in Systems	
	Analysis and Design (EMMSAD'02)	
	<b>Workshop WS8:</b>	@ Seymour
	Doctoral Consortium	
	<b>Tutorial T2:</b>	@ Windsor
	The Application of Workflow Management	
	Technology in Process-based B2B Integration	
	<i>C. Bussler, Oracle</i>	
<b>10:30</b>	<b>Coffee break @ Scott</b>	
<b>11:00</b>		
<b>11:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>12:30</b>	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS5 Continued</b>	@ Rosetti
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour
	<b>Tutorial T2 Continued</b>	@ Windsor

**Monday 27 May****Workshops and Tutorials**

<b>12:30</b>	<b>Lunch @ Monarchs</b>	
<b>14:00</b>		
<b>14:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>15:30</b>	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS5 Continued</b>	@ Rosetti
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour
	<b>Tutorial T3</b>	@ Windsor
	The Web-services phenomenon: Concepts,	
	Technologies, Current Trends & Research	
	Directions <i>Michael Papazoglou, Tilburg Univ.,</i>	
	<i>The Netherlands</i>	
<b>15:30</b>	<b>Coffee break @ Scott</b>	
<b>16:00</b>		
<b>16:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>17:30</b>	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS5 Continued</b>	@ Rosetti
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour
	<b>Tutorial T3 Continued</b>	@ Windsor

**Tuesday 28 May**

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**Workshops**

<b>08:00</b>	<b>Registration</b>	@ Mountbatten Court
<b>09:00</b>		
<b>09:00</b>	<b>Workshop WS1:</b>	@ Stenvenson
<b>10:30</b>	Agent-Oriented Information Systems (AOIS'02)	
	<b>Workshop WS3:</b>	@ Windsor
	2nd Workshop on Data Integration over the Web (DIWeb'02)	
	<b>Workshop WS4 + 7:</b>	@ Carlyle
	Web Services, E-business and Semantic Web Workshop (WSeBT)	
	<b>Workshop WS6:</b>	@ Scott
	Evaluation and Modeling Methods in Systems Analysis and Design (EMMSAD'02)	
	<b>Workshop WS8:</b>	@ Seymour
	Doctoral Consortium	
<b>10:30</b>	<b>Coffee break @ Scott</b>	
<b>11:00</b>		
<b>11:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>12:30</b>	<b>Workshop WS3 Continued</b>	@ Windsor
	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour
<b>12:30</b>	<b>Lunch @ Monarchs</b>	
<b>14:00</b>		
<b>14:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>15:30</b>	<b>Workshop WS3 Continued</b>	@ Windsor
	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour

**Tuesday 28 May**

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**Workshops**

<b>15:30</b>	<b>Coffee break @ Scott</b>	
<b>16:00</b>		
<b>16:00</b>	<b>Workshop WS1 Continued</b>	@ Stevenson
<b>17:30</b>	<b>Workshop WS3 Continued</b>	@ Windsor
	<b>Workshop WS4 + 7 Continued</b>	@ Carlyle
	<b>Workshop WS6 Continued</b>	@ Scott
	<b>Workshop WS8 Continued</b>	@ Seymour

**Wednesday 29 May**

**Conference Day 1**

- 08:00** Registration @ Mountbatten  
**08:30** Court
- 08:30** Opening Session @ Mountbatten B  
**09:00** Welcome to CAiSE'02
- 09:00** Keynote K1 @ Mountbatten B  
**10:00** Chair: M. Tamer Özsu
- Dr. Michael Brodie* (Verizon, USA)  
"The Grand Challenge in Information Technology and the Illusion of Validity"
- 10:30** Coffee break @ Mountbatten Lane  
**11:00**
- 11:00** Paper Session 1 - Developing Web Applications @ Mountbatten B  
**12:30** Chair: Anne Pidduck
- Jian Yang, Mike P. Papazoglou*  
"Web Component: A Substrate for Web Service Reuse and Composition" (The Netherlands)
- Lin Liu, Eric Yu*  
"Designing Web-Based Systems in Social Context: A Goal and Scenario Based Approach" (Canada)
- Rakesh Mohan, Mitchell A. Cohen, Josef Schiefer*  
"A State Machine Based Approach for a Process Driven Development of Web-Applications" (USA)
- Paper Session 2 – Knowledge Management @ Carlyle  
Chair: Manuel Kolp
- Alejandro A. Vaisman, Alberto O. Mendelzon, Walter Ruaro, Sergio G. Cymerman*  
"Supporting Dimension Updates in an OLAP Server" (Argentina, Canada)

**Wednesday 29 May**

**Conference Day 1**

- Johann Eder, Christian Koncilia, Tadeusz Morzy*  
"The COMET Metamodel for Temporal Data Warehouses" (Austria, Poland)
- Ping Liu, Jayne Curson, Peter Dew*  
"Exploring RDF for Expertise Matching Within an Organizational Memory" (UK)
- 12:30** Lunch @ Mountbatten A  
**14:00**
- 14:00** Paper Session 3 – Deployment Issues @ Carlyle  
**15:30** Chair: Motoshi Saeki
- Kari Smolander, Tero Päiväranta*  
"Describing and Communicating Software Architecture in Practice: Observations on Stakeholders and Rationale" (Finland, Norway)
- Magda Huisman, Juhani Iivari*  
"The Individual Deployment of Systems Development Methodologies" (South Africa, Finland)
- Daqing Hou, James Hoover, Eleni Stroulia*  
"Supporting the Deployment of Object Oriented Frameworks" (Canada)
- Paper Session 4 – Semantics of Information @ Mountbatten B  
Chair: Moira Norrie
- Terje Brasethvik, Jon Atle Gulla*  
"A Conceptual Modeling Approach to Semantic Document Retrieval" (Germany, Norway)
- Yannis Stavrakas, Manolis Gergatsoulis*  
"Multidimensional Semistructured Data: Representing Context-Dependent Information on the Web" (Greece)

**Wednesday 29 May**

**Conference Day 1**

*Nick Papadopoulos, Dimitris Plexousakis*  
"The Role of Semantic Relevance in Dynamic User  
Community Management and the Formulation of  
Recommendations" (Greece)

**15:30** **Coffee break @ Mountbatten Lane**  
**16:00**

**16:00** **Panel P1**  
**17:30** Chair: Mohan Tanniru

@ Mountbatten B

Managing Web Content

Panelists : Brian Vantaw  
Tim Banfill  
Michael Grieves

**Thursday 30 May**

**Conference Day 2**

**08:00** **Registration**  
**09:00**

@ Mountbatten  
Court

**09:00** **Keynote K2**  
**10:30** Chair: Carson Woo

@ Mountbatten B

**Prof. Dr. Matthias Jarke**, RWTH Aachen, Germany  
"Metadata and Cooperative Knowledge  
Management"

**10:30** **Coffee break @ Mountbatten Lane**  
**11:00**

**11:00** **Paper Session 5 – System Qualities**  
**12:30** Chair: Arne Solvberg

@ Carlyle

*Howard F Lipson, Nancy R. Mead, Andrew P Moore*  
"Can We Ever Build Survivable Systems from COTS  
Components?" (USA)

*Henry M. Kim, Mark S. Fox*  
"Towards a Data Model for Quality Management  
Web Services: an Ontology of Measurement for  
Enterprise Modeling" (Canada)

*Moira Norrie, Alexis Palinginis*  
"A Modeling Approach to the Realization of Modular  
Information Spaces" (Switzerland)

**Paper Session 6 – Integration Issues**  
Chair: Antoni Olive

@ Mountbatten B

*Andrea Cali, Diego Calvanese, Giuseppe De  
Giacomo, Maurizio Lenzerini*  
"Data Integration Under Integrity Constraints" (Italy)

*Huaxin Zhang, Eleni Stroulia*  
"Babel: An XML-based Application Integration  
Framework" (Canada)



Thursday 30 May

Conference Day 2

*Nasreddine Aoumeur, Gunter Saake*

"Integrating and Rapid-Prototyping UML Structural and Behavioural Diagrams Using Rewriting Logic" (Germany)

**12:30 Lunch @ Mountbatten A**

**14:00**

**14:00** Paper Session 7 – Analysis and Adaptation

**15:30** Chair: Dimitris Plexousakis

@ Carlyle

*M. Benerecetti, M. Panti, L. Spalazzi, S. Tacconi*

"Verification of Payment Protocols via Multi-Agent Model Checking" (Italy)

*Gunter Gans, Gerhard Lakemeyer, Matthias Jarke, Thomas Vits*

"SNet: A Modeling and Simulation Environment for Agent Networks Based on i\* and CONGOLOG" (Germany)

*Hye-Young Paik, Boualem Benatallah, Rachid Hamadi*

"Usage-Centric Adaptation of Dynamic E-Catalogues" (Australia)

Paper Session 8 – Retrieval and Performance

Chair: Maurizio Lenzerini

@ Mountbatten B

*Jianguo Lu*

"Reengineering of Database Applications to EJB-Based Architecture" (Canada)

*Sangjun Lee, Dongseop Kwon, Sukho Lee*

"Efficient Similarity Search for Time Series Data Based on the Minimum Distance" (Korea)

Thursday 30 May

Conference Day 2

*John N. Wilson*

"A High-Performance Data Structure for Mobile Information Systems" (UK)

**15:30 Coffee break @ Mountbatten Lane**

**16:00**

**16:00** Paper Session 9 – Requirements Issues

**17:30** Chair: Pat Martin

@ Carlyle

*Andreas Leicher, Felix Bubl*

"External Requirements Validation for Component-Based Systems" (Germany)

*Maria Carmen Leonardi, Julio Leite*

"Using Business-Rules in EXtreme Requirements" (Argentina, Brazil)

*Mira Kajko-Mattsson*

"Evaluating CM3 : Problem Management" (Sweden)

Paper Session 10 – Schema Matching and Evolution

Chair: Alberto Mendelzon

*Jacob Berlin, Amihai Motro*

"Database Schema Matching Using Machine Learning with Feature Selection" (USA)

*Cristina Gomez, Antoni Olive*

"Evolving Partitions in Conceptual Schemas in the UML" (Spain)

*Peter McBrien, Alexandra Poulouvassilis* (UK)

"Schema Evolution in Heterogeneous Database Architectures: A Schema Transformation Approach"

@ Mountbatten B

**19:30 Conference Dinner @ Mountbatten A**

**22:00**

**Friday 31 May**

**Conference Day 3**

**08:00** Registration  
**09:00**

@ Mountbatten  
Court

**09:00** Keynote K3  
**10:00** Chair: John Mylopoulos

@ Mountbatten B

**Dr. Christopher Welty** (IBM Watson Research  
Center, USA)  
"Ontology-Driven Conceptual Modeling"

**10:30** Coffee break @ Mountbatten Lane  
**11:00**

**11:00** Paper Session 11 - Workflows  
**12:30** Chair: Mike Papazoglou

@ Mountbatten B

*Ingrid Wetzel, Ralf Klischewski*  
"Serviceflow Beyond Workflow? Concepts and  
Architectures for Supporting  
Inter-Organizational Service Processes" (Germany)

*Alfred Fent, Herbert Reiter, Burkhard Freitag*  
"Design for Change: Evolving Workflow  
Specifications in ULTRFlow" (Germany)

*W. M. P. van der Aalst, A. Hirsichall, H. M. W.  
Verbeek*  
"An Alternative Way to Analyze Workflow Graphs"  
(The Netherlands)

Paper Session 12 – Semantics and Logical  
Representations  
Chair: Grant Weddel

@ Carlyle

*Yingjiu Li, Lingyu Wang, X. Sean Wang, Sushil  
Jajodia*  
"Auditing Interval-Based Inference" (USA)

**Friday 31 May**

**Conference Day 3**

*Mengchi Liu*  
"A Logical Foundation for XML" (Canada)

*Richard Vdovjak, Geert-Jan Houben*  
"Providing the Semantic Layer for WIS Design" (The  
Netherlands)

**12:30** Lunch @ Mountbatten A  
**14:00**

**14:00** Paper Session 13 – Understanding and Using  
**15:30** Methods  
Chair: Yair Wand

@ Carlyle

*Eva Söderström, Birger Andersson, Paul  
Johannesson, Erik Perjons, Benkt Wangler*  
"Towards A Framework for Comparing Process  
Modelling Languages" (Sweden)

*Naveen Prakash, M. P. S. Bhatia*  
"Generic Models for Engineering Methods of  
Diverse Domains" (UK, India)

*Motoshi Saeki*  
"Role of Model Transformation in Method  
Engineering" (Japan)

**15:30** Paper Session 14 – Modeling Objects and  
**16:00** Relationships  
Chair: Eric Yu

@ Mountbatten B

*Mohamed Dahchour, Alain Piroette, Esteban Zimanyi*  
"A Generic Role Model for Dynamic Objects"  
(Belgium)

**Friday 31 May**

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**Conference Day 3**

*Dolors Costal, Maria-Ribera Sancho, Ernest Teniente*

"Understanding Redundancy in UML Models for Object-Oriented Analysis" (Spain)

*Antoni Olive*

"Representation of Generic Relationship Types in Conceptual Modeling" (Spain)

**Coffee break @ Mountbatten Lane**

**16:00 Panel P2**

**17:30** Chair: M. Tamer Özsu

@ Mountbatten B

Web Information Systems Engineering

Panelists : John Mylopoulos  
Maurizio Lenzerini  
Mike Papazoglou  
Carson Woo

**17:30 Closing Session**

**18:00**

@ Mountbatten B

**Tutorials**

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**T 2: The Application of Workflow Management Technology in Process-based B2B Integration**

*Christoph Bussler*, Oracle Corporation

The tutorial enables the attendees to understand and characterize the field of B2B integration in general and the use of workflow management technology in B2B integration specifically to address the required process functionality for B2B integration. Furthermore, after the tutorial attendees will be able to appreciate the need for and the advantages of process-based B2B integration, to understand how workflow management technology can be used in B2B integration, to distinguish naive and sophisticated application of workflow management technology in B2B integration, to model process-based B2B integration scenarios and judge the quality of modeled integration to place workflow technology as fundamental component into an overall B2B integration architecture, to explain how components of B2B integration architectures interact with each other.

## Tutorials

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### **T 3: The Web-services phenomenon: Concepts, Technologies, Current Trends & Research Directions**

*Michael Papazoglou*, Tilburg University, The Netherlands

Web-services are modular, self-describing, self-contained applications that are accessible over the Internet and can run remotely on a service provider's site. Web-services constitute a distributed computing infrastructure made up of many different systems trying to communicate over the Internet to virtually form a single logical system. Web-services are an effective means for linking loosely coupled systems together using a technology that does not bind to a particular component model, programming language or platform. The modularity and flexibility of Web-services make them ideal for (e-business) cross-application integration. They form the building blocks for creating distributed applications that can be published to and accessed over the Internet and corporate intranets. Web-services consist of a set of open Internet standards that allow developers to implement distributed applications – using different tools provided by many different vendors – to create corporate applications that join together software modules from systems in diverse organisational departments or from different enterprises. In this way enterprises can mix and match Web-services to perform transactions with minimal programming effort. The purpose of this tutorial is to provide a comprehensive introduction to the subject of Web services and present a sound framework for understating how Web services are deployed and used in business applications. In doing so we will overview the concepts, key technologies and current standards for Web service development and discuss possible research directions.

## Workshops

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### **WS 1: Agent-Oriented Information Systems (AOIS'02)**

Organizers: P. Giorgini, Y. Lespérance, G. Wagner, E. Yu  
Website: <http://www.aois.org>

This bi-conference workshop aims to bring together researchers and practitioners from the Information Systems and Agents communities who will be shaping the future of information systems engineering.

### **WS 3: 2nd Workshop on Data Integration over the Web (DIWeb'02)**

Organizers: Z. Bellahsene, Z. Lacroix  
Website: <http://www.lirmm.fr/~bella/diweb02>

The aim of this workshop is to provide a forum for articles that bring the challenges in the design, maintenance and implementation of Web based Information Systems, and the opportunity for all involved to debate new issues and directions for research and development work in the future.

### **WS 4 + 7: Web Services, E-business and Semantic Web (WESeBT)**

Organizers: M. Orłowska, C. Bussler, J. Yang, B. Pernici, S. McIlraith, R. Hull  
Website: <http://pcsiwa12.rett.polimi.it/~pernici/WSeBT/>

The goal of this workshop is to bring web services, e-business, and semantic web technological issues together for discussion and review. This includes new research results and developments in the context of web services and e-business as well as application of existing research results in this new fascinating area.

### **WS 5: Design and Management of Data Warehouses (DMDW'2002)**

Organizers: J. Hammer, M. Jeusfeld, I. Song, M. Staudt, D. Theodoratos  
Website: <http://sunsite.informatik.rwth-aachen.de/Societies/DMDW/2002/>

Data Warehousing embraces technology and industrial practice to systematically integrate data from multiple distributed data sources and to

## Workshops

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use that data in annotated and aggregated form to support business decision-making and enterprise management. Although many database techniques have been revisited or newly developed in the context of data warehouses, such as view maintenance and OLAP, little attention has been paid to the design and management of data warehouses to appropriately serve their purposes, i.e., to support the management of a given enterprise. This workshop is intended as a forum to fill this gap.

### **WS 6: Evaluation of Modeling Methods in Systems Analysis and Design (EMMSAD'02)**

Organizers: T. Halpin, K. Siau, J. Krogstie

Website: <http://www.ait.unl.edu/siau/conference/EMMSAD2002.htm>

The objective of this workshop is to provide a forum for researchers and practitioners interested in modeling methods in systems analysis and design to meet, and exchange research ideas and results. It also provides researchers an opportunity to present their research papers and reports, and to take part in open discussions. The seventh in a highly successful series of workshops, EMMSAD-02 is jointly sponsored by CAiSE and the International Federation for Information Processing Working Group 8.1 (IFIP8.1).

### **WS 8: Doctoral Consortium**

Organizers: A. Hinze, J. Kotlarsky

Website: [http://www.inf.fu-berlin.de/~hinze/caise02\\_DC/](http://www.inf.fu-berlin.de/~hinze/caise02_DC/)

The Doctoral Consortium is a workshop for Ph.D. students at any stage in their thesis. The goal of the Doctoral Consortium is to help Ph.D. students with Ph.D. thesis by giving feedback on your own research work as well as to give some general advice on making the most of your research environment. You will be given the chance to present and discuss your thesis in the context of an international conference outside of your usual University atmosphere. The workshop lasts two days and about 10 - 15 Ph.D. students will have the possibility to participate. Prominent professors in the field of information systems will accompany the workshop.

## Posters

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*Michel Adiba, Jose-Luis Zechinelli-Martini*

"Building Spatio-Temporal Presentation Warehouses from Heterogeneous Multi-Media Web Servers" (France)

*Jose Luis Arjona, R. Corchuelo, A. Ruiz, M. Toro*

"A Practical Agent-Based Method to Extract Semantic Information from the Web" (Spain)

*Christoph Bussler*

"Business-to-Business Integration" (USA)

*Zhiming Cai, Eric Yu*

"Modelling Performance Requirements using a Goal and Scenario-Oriented Approach with GRL and UCM" (Canada)

*Carlo Combi, Angelo Montanari*

"Querying Data with Multiple Temporal Dimensions" (Italy)

*Ruxandra Domenig, Klaus R. Dittrich*

"Query Exploriveness for Integrated Search in Heterogeneous Data Sources" (Switzerland)

*Irna M. R. Evangelista Filha, Altigran S. Silva, Alberto H. F. Laender, David W. Embley* "Using Nested Tables for Representing and Querying Semistructured Web Data" (Brazil, USA)

*Marcela Genero, Geert Poels, Mario Piattini*

"Defining and Validating Measures for Conceptual Data Model Quality" (Spain, Belgium)

*John Grundy, Wenjing Zou*

"An Architecture for Building Multi-Device Thin-Client Web User Interfaces" (New Zealand)

*Arne Harren, Heiko Tapken*

"A Framework for Tool-Independent Modeling of Data Acquisition Processes for Data Warehousing" (Germany)

## Posters

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*Cosmina Ivan, Vasile Dadarlat, Kalman Pusztai*

"Managing Complexity of Designing Routing Protocols via a Middleware Approach" (Ireland, Romania)

*Hyunchul Kang, JaeGuk Lim*

"Deferred Incremental Refresh of XML Materialized Views" (Korea)

*Susana Montero, Paloma Díaz, Ignacio Aedo*

"Requirements for Hypermedia Development Methods: a Survey of Outstanding Methods" (Spain)

*Luigi Pontieri, Domenico Ursino, Ester Zumpano*

"An Approach for Synergically Carrying out Intensional and Extensional Integration" (Italy)

*Arijit Sengupta, Mehmet Dalkilic*

"DSQL - an SQL for Structured Documents" (USA)

*Xiaomeng Su and Lars Ilebrekke*

"A Comparative Study of Ontology Languages and Tools" (Norway)

*Vijayan Sugumaran, Mohan Tanniru*

"Life Cycle Based Approach for Knowledge Management: A Knowledge Organization Case Study" (USA)

*Wenjun Sun, Kevin Lu*

"Parallel Query Processing Algorithms for Semi-Structured Data" (UK)

*Marco Torchiano, Giorgio Bruno*

"Domain-Specific Instance Models in UML" (Norway, Italy)

*Yannis Tzitzikas, Nicolas Spyrtatos, Panos Constantopoulos, Anastasia Analyti*

"Extended Faceted Ontologies" (Greece, France)

*Panos Vassiliadis, Alkis Simitsis, Spiros Skiadopoulos*

"On the Logical Modeling of ETL Processes" (Greece)

## Posters

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*Minhong Wang, Huaiqing Wang*

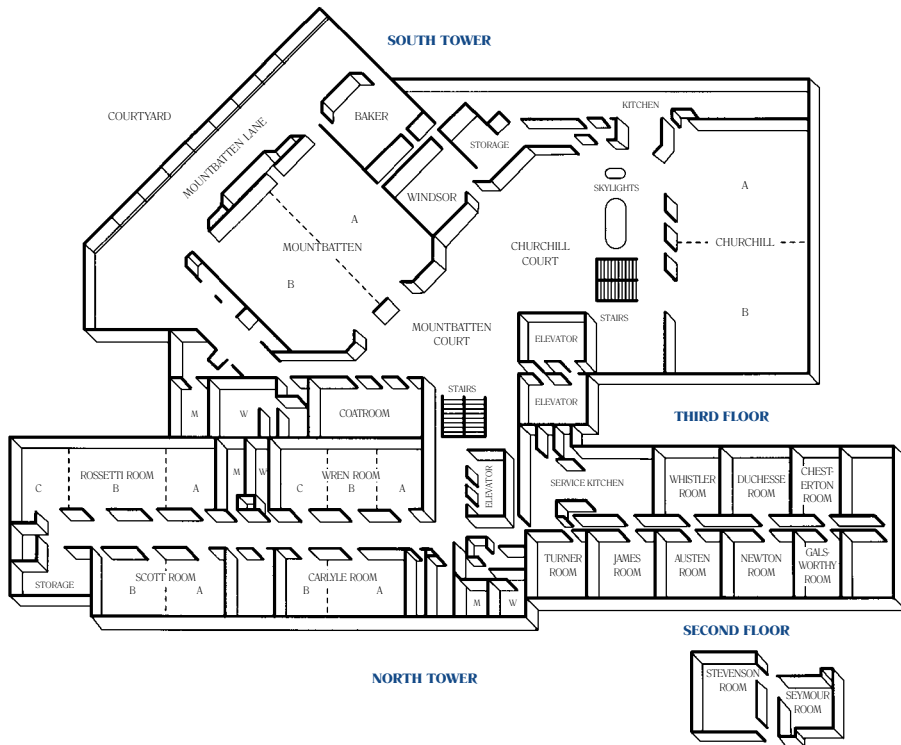
"Intelligent Agents Supported Flexible Workflow Monitoring System" (Hong Kong)

*Kenny Qili Zhu, Andrew E. Santosa*

"A Meeting Scheduling System Based on Open Constraint Programming" (Singapore)

*Peter Bollen*

"Modeling Constructs in Natural Language Modeling" (The Netherlands)



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