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Jacky Akoka Mokrane Bouzeghoub  
Isabelle Comyn-Wattiau  
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# Conceptual Modeling – ER '99

18th International Conference  
on Conceptual Modeling  
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Proceedings



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## Series Editors

Gerhard Goos, Karlsruhe University, Germany  
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## Volume Editors

Jacky Akoka  
Conservatoire National des Arts et Métiers  
292 Rue Saint Martin, F-75141 Paris Cedex 03, France  
E-mail: akoka@cnam.fr

Mokrane Bouzeghoub  
Elisabeth Métais  
Université de Versailles  
45 Avenue des Etats Unis, F-78035 Versailles Cedex, France  
E-mail: {Mokrane.Bouzeghoub, Elisabeth.Metais}@prism.uvsq.fr

Isabelle Comyn-Wattiau  
ESSEC  
Avenue Bernard Hirsch, F-92021 Cergy Cedex, France  
E-mail: wattiau@essec.fr

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## Preface

This book provides a comprehensive state-of-the-art, in conceptual modeling. It grew out of research papers presented at the 18th International Conference on Conceptual Modeling (ER '99) and arranged by the editors. The plan of the conference is to cover the whole spectrum of conceptual modeling as it relates to database and information systems design and to offer a complete coverage of data and process modeling, database technology, and database applications. The aim of the conference and of these proceedings is to present new insights related to each of these topics. This book contains both selected and invited papers. The 33 selected papers are organized in 11 sessions encompassing the major themes of the conference, especially :

- schema transformation, evolution, and integration
- temporal database design
- views and reuse in conceptual modeling
- advanced conceptual modeling
- business process modeling and workflows
- data warehouse design.

Besides the selected papers, 3 invited papers present the views of three keynote speakers, internationally known for their contribution to conceptual modeling and database research and for their active role in knowledge dissemination. Peter Chen presents the results of his ongoing research on ER model, XML, and the Web. Georges Gardarin presents the first results of an ESPRIT project federating various data sources with XML and XML-QL. Finally, Matthias Jarke develops a way to capture and evaluate the experiences gained about process designs in so-called process data warehouses.

The program of ER '99 was designed as a wide forum for researchers and industrial experts interested in all aspects of conceptual modeling. As a result, the program a scientific conference, three workshops, three invited talks, four tutorials, an industrial track, posters, and exhibitions. The research track included 33 papers selected from 143 papers submitted for review. These papers originated from 36 countries from all continents. The three international workshops incorporated 31 papers selected from 65 submitted. They explore the following topics: reverse engineering in information systems, World-Wide Web and conceptual modeling, as well as evolution and change in data management. Besides the invited talks, four tutorials given by internationally recognized experts provided surveys respectively on Web-based information access, visual interactions with databases, UML from analysis to implementation, and designing large scale client-server systems with UML. The industrial track is devoted to presentations by industrial experts. Finally, posters and exhibitions allowed researchers to present ongoing research.

The organization of the conference involved many partners and valuable contributions from a number of persons. First we reserve our greatest debt of gratitude for all those who contributed to the success of ER '99, the authors, invited speakers, tutorial presenters, session chairs and participants. This conference was made possible thanks to the financial and scientific support of the CEDRIC laboratory of the Conservatoire

National des Arts et Métiers, ESSEC Graduate Business School, PRISM laboratory of the University of Versailles, Institut National de la Recherche en Informatique et Automatique (INRIA), Institut National des Télécommunications (INT), and Università di Roma la Sapienza. They deserve our deepest thanks. We appreciate the help provided by Maurizio Lenzerini who accepted to chair the conference. We would like to thank in particular Stephen Liddle for providing an good software platform for paper and review management. Our thanks goes to program and organization committee members, especially Zoubida Kedad and Nadira Lammari for their technical support. Special thanks goes to Christine Parent and Jacques Kouloumdjian for their untiring efforts in organizing respectively the tutorials and the workshops. We would like to thank David Avison for handling the publicity of ER '99. Finally, we would like to express our sincere appreciation to Isabelle Comyn-Wattiau and Elisabeth Métais. Their enthusiasm and their dedication have made this conference possible.

September 1999

J. Akoka, M. Bouzeghoub

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*by Tiziana Catarci, Università degli Studi di Roma "La Sapienza", Italy*

### **Visual Interaction with Databases**

*by Tiziana Catarci, Università degli Studi di Roma "La Sapienza", Italy*

### **UML at Work - From Analysis to Implementation**

*by Gerti Kappel, Martin Hitz, Werner Retschitzegger, Austria*

### **Designing Large Scale Client/Server Systems with UML**

*by Leszek A. Maciaszek, Macquarie University, Sydney, Australia*

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### **Workshop 1 - REIS**

International Workshop on Reverse Engineering in Information Systems

*Chair - J. Kouloumdjian*

### **Workshop 2 - WWWCM**

International Workshop on the World-Wide Web and Conceptual Modeling

*Co-chairs - P.P.S. Chen, D. Embley, S. Liddle*

### **Workshop 3 - ECDM**

International Workshop on Evolution and Change in Data Management

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