Preface

Following a 13-year tradition of excellence, the 14th ECOOP conference repeated the success of its predecessors. This excellence is certainly due to the level of maturity that object-oriented technology has reached, which warrants its use as a key paradigm in any computerized system. The principles of the object-oriented paradigm and the features of systems, languages, tools, and methodologies based on it are a source of research ideas and solutions to many in all areas of computer science. ECOOP 2000 showed a thriving field characterized by success on the practical side and at the same time by continuous scientific growth.

Firmly established as a leading forum in the object-oriented arena, ECOOP 2000 received 109 high quality submissions. After a thorough review process, the program committee selected 20 papers, which well reflect relevant trends in object-oriented research: object modeling, type theory, distribution and cooperation, advanced tools, programming languages. The program committee, consisting of 31 distinguished researchers in object-orientation, met in Milan, Italy, to select the papers for inclusion in the technical program of the conference. Each paper, reviewed by at least 4 reviewers, was judged according to scientific and presentation quality, originality, and relevance to the conference topics. In addition to technical contributed papers, the program included invited presentations. We were fortunate that four distinguished experts accepted our invitation to share with us their views on various aspects of object technology: Ole Lehrmann Madsen (Aarhus University, Denmark) on unified programming languages, Li Gong (Sun Microsystems, USA) on security in distributed object systems, Munir Cochinwala (Telcordia Technologies, USA) on object technologies for advanced communication systems, and finally Alan Kay (Walt Disney Imagineering Research & Development) who gave the banquet speech. The program was complemented by two panels, focusing respectively on aspect-oriented programming and mobile code, and internet security and e-commerce. Apart from the technical program, ECOOP 2000 also offered tutorials, workshops, exhibitions, and demonstrations. Thus, we trust researchers and practitioners gained many insights into the state of the art of object technology.

It is impossible to organize such a successful program without the help of many individuals. I would like to express my appreciation to the authors of the submitted papers, and to the program committee members and external referees, who provided timely and significant reviews. I owe special thanks to Richard van de Stadt for his excellent job in handling the electronic submission and review process of the papers. I also thank Marco Mesiti for his assistance during the program committee meeting. Last, but not least, I would like to thank the general organizing chairs, Denis Caromel and Jean-Paul Rigault, and all organizing committee members for their tremendous work in making ECOOP 2000 a successful conference.

April 2000

Elisa Bertino

Organization

ECOOP 2000 was organized by the University of Nice Sophia Antipolis (UNSA) and the National Institute for Research in Computer Science and Control (INRIA), under the auspices of AITO (Association Internationale pour les Technologies Objets). Within the UNSA, several departments cooperated in the organization: the Computer Science Department, the Information Technology Engineering School (ESSI), the Technology Institute (IUT), and the I3S Laboratory, the latter being associated with both the UNSA and the National Council for Scientific Research (CNRS).



Executive Committee

Organizing Chairs:	Denis Caromel (UNSA)
	Jean-Paul Rigault (ESSI, UNSA)
Program Chair:	Elisa Bertino (University of Milan)
Tutorial Chairs:	Isabelle Attali (INRIA)
	Giuseppe Castagna (École Normale Supérieure)
Workshop Chairs:	Jacques Malenfant (Université de Bretagne-Sud)
	Sabine Moisan (INRIA)
Panel Chairs:	Françoise Baude (UNSA)
	Linda M. Northrop (SEI, CMU)
Demonstration Chairs:	Jacques Farré (ESSI, UNSA)
	Manuel Serrano (UNSA)
Poster Chairs:	Anne-Marie Déry (ESSI, UNSA)
	Mireille Fornarino (ESSI, UNSA)
Exhibit Chairs:	Erick Gallesio (ESSI, UNSA)
	Colette Michel (ESSI, UNSA)
Submission Site:	Richard van de Stadt (University of Twente)
Student Volunteer Chairs:	Bruno Martin (ESSI, UNSA)
	Pascal Rapicault (ESSI, UNSA)
Social Events:	Corinne Jullien (I3S, CNRS)
	Bernard Serpette (INRIA)
Advertising, Website:	Laurent Berger (ESSI, UNSA)
	Jean-Yves Tigli (ESSI, UNSA)
Industrial Relations:	Anne-Marie Hugues (ESSI, UNSA)
Administrative Support:	Zohra Kalafi (UNSA)
	Patricia Lachaume (I3S, CNRS)
	Annick Perles and the ESSI administrative staff
	Dany Sergeant (INRIA)
	Jacqueline Tchobanian (INRIA)
	· · · · · · · · · · · · · · · · · · ·

Program Committee

Mehmet Akşit Suad Alagić Jean-Pierre Briot Vinny Cahill Luca Cardelli Pierre Cointe Serge Demeyer Asuman Dogac Theo D'Hondt Carlo Ghezzi Yossi Gil Rachid Guerraoui Giovanna Guerrini Mehdi Jazayeri Eric Jul Gerti Kappel Jørgen Lindskov Knudsen Doug Lea Barbara Staudt Lerner Karl Lieberherr Boris Magnusson Satoshi Matsuoka Ana Moreira Ron Morrison Rui Oliveira Walter Olthoff Tamer Oszu Jens Palsberg Markku Sakkinen Francesco Tisato Jan Vitek

University of Twente, The Netherlands Wichita State University, USA Paris 6 University, France Trinity College of Dublin, Ireland Microsoft Research, Cambridge, UK École des Mines de Nantes, France University of Antwerp, Belgium Middle East Technical University, Turkey Free University, Brussels, Belgium Politecnico di Milano, Italy Technion, Haifa, Israel EPFL, Lausanne, Switzerland University of Genova, Italy Technical University of Vienna, Austria University of Copenhagen, Denmark University of Linz, Austria University of Aarhus, Denmark State University of New York, USA Williams College, USA Northeastern University, USA Lund Institute of Technology, Sweden Tokyo Institute of Technology, Japan Universidade Nova de Lisboa, Portugal University of St. Andrews, UK Universidade de Minho, Portugal DFKI, Germany Alberta University, Canada Purdue University, USA Tampere University of Technology, Finland University of Milano-Bicocca, Italy Purdue University, USA

Sponsoring Organizations



Referees

Franz Acherman Ole Agesen Xavier Alvarez Davide Ancona Joaquim Aparício João Araúio Ulf Asklund Dharini Balasubramaniam Carlos Baquero Luís Barbosa Lodewijk Bergmans Joshua Bloch Noury Bouragadi Johan Brichau Fernando Brito e Abreu Pim van den Broek Kim Bruce Luis Caires Giuseppe Castagna Barbara Catania Walter Cazzola Shigeru Chiba Tal Cohen Aino Cornils Erik Corry Juan-Carlos Cruz Gianpaolo Cugola Padraig Cunningham Christian D. Jensen Silvano Dal-Zilio Wolfgang De Meuter Kris De Volder Giorgio Delzanno David Detlefs Anne Doucet Rémi Douence Jim Dowling Karel Driesen Sophia Drossopoulou Stéphane Ducasse Natalie Eckel Marc Evers Johan Fabry Leonidas Fegaras

Luca Ferrarini Rony Flatscher Jacques Garrigue Marie-Pierre Gervais Miguel Goulão Thomas Gschwind Pedro Guerreiro I. Hakki Toroslu Görel Hedin Christian Heide Damm Roger Henriksson Martin Hitz David Holmes James Hoover Antony Hosking Cengiz Icdem Yuuji Ichisugi Anders Ive Hannu-Matti Järvinen Andrew Kennedy Graham Kirby Svetlana Kouznetsova Kresten Krab Thorup Reino Kurki-Suonio Thomas Ledoux Yuri Leontiev David Lorenz Steve MacDonald Ole Lehrmann Madsen Eva Magnusson Margarida Mamede Klaus Marius Hansen Kim Mens Tom Mens Isabella Merlo Marco Mesiti Thomas Meurisse Mattia Monga Sandro Morasca M. Murat Ezbiderli Oner N. Hamali Hidemoto Nakada Jacques Nove Deniz Oguz

José Orlando Pereira Alessandro Orso Johan Ovlinger Marc Pantel Jean-Francois Perrot Patrik Persson Frédéric Peschanski Gian Pietro Picco Birgit Pröll Christian Queinnec Osmar R. Zaiane Barry Redmond Sigi Reich Arend Rensink Werner Retschitzegger Nicolas Revault Matthias Rieger Mario Südholt Paulo Sérgio Almeida Ichiro Satoh Tilman Schaefer Jean-Guy Schneider Pierre Sens

Veikko Seppänen Magnus Steinby Don Syme Tarja Systä Duane Szafron Yusuf Tambag Kenjiro Taura Michael Thomsen Sander Tichelaar Mads Torgersen Tom Tourwé Arif Tumer Ozgur Ulusoy Werner Van Belle Vasco Vasconcelos Karsten Verelst Cristina Videira Lopes Juha Vihavainen John Whaley Mario Wolzko Mikal Ziane Gabi Zodik Elena Zucca