

# Preface

Euro-Par – the European Conference on Parallel Computing – is an international conference series dedicated to the promotion and advancement of all aspects of parallel computing. The major themes can be divided into the broad categories of hardware, software, algorithms, and applications for parallel computing. The objective of Euro-Par is to provide a forum within which to promote the development of parallel computing both as an industrial technique and an academic discipline, extending the frontiers of both the state of the art and the state of the practice. This is particularly important at a time when parallel computing is undergoing strong and sustained development and experiencing real industrial take up. The main audience for and participants in Euro-Par are seen as researchers in academic departments, government laboratories, and industrial organisations. Euro-Par aims to become the primary choice of such professionals for the presentation of new results in their specific areas. Euro-Par is also interested in applications that demonstrate the effectiveness of the main Euro-Par themes.

Euro-Par has its own Internet domain with a permanent web site where the history of the conference series is described: <http://www.euro-par.org>. The Euro-Par conference series is sponsored by the Association of Computer Machinery and the International Federation of Information Processing.

## **Euro-Par 2001**

Euro-Par 2001 was organised by the University of Manchester and UMIST. Manchester has a long tradition in computing and currently hosts CSAR (Computer Services for Academic Research), a high performance computing service run on behalf of the UK Research Councils by a consortium of SGI, CSC, and the University of Manchester, offering access to world-class high-performance computing facilities.

The format of Euro-Par 2001 follows that of the previous five editions of the conference and consists of a number of topics each individually monitored by a committee of four members. There were originally 20 topics for this year's conference one of which was included for the first time: Parallel and Distributed Embedded Systems. The call for papers attracted 207 submissions of which 108 were accepted. Of the papers accepted, 69 were presented as regular and 39 as research notes. There were 830 reviews collected, an average of 4.01 reviews per paper. Submissions were received from 38 countries (based on the corresponding author's country), 25 of which were represented at the conference. The principal contributors by country were Spain and the UK with 29 submissions each, USA with 26, France with 21 and Germany with 20.

The programme of Euro-Par 2001 also featured invited talks from Jack Don-  
garra, Ian Foster, Dennis Gannon, Tony Hey, Martin Kersten, and Thomas Ster-  
ling. The conference's web site is <http://europar.man.ac.uk/>.

## Acknowledgments

The organisation of an international event such as Euro-Par 2001 was a difficult and time-consuming task that could not have been accomplished without the help of numerous people. First, we are especially grateful to Christian Lengauer and Ron Perrott from the Steering Committee as well as last year's organisers, Thomas Ludwig and Roland Wismüller especially, who gave us the benefit of their experience in the 18 months leading to the conference. We are grateful also to the nearly 80 members of the programme committee, who contributed to form an excellent scientific programme. The programme committee meeting at Manchester in April was well attended and, thanks to the sound preparation by everyone and Christian Lengauer's guidance, resulted in a coherent, well-structured conference.

Locally, there were several people whose help was instrumental at various stages and to whom we owe special thanks. First, our colleagues in the Local Organisation Committee, John Brooke, Terry Hewitt, and Kaukab Jaffri, spent considerable time and effort to make the conference a success. Joanna Leng was involved at the initial preparation phase and was our liaison with last year's organisers. YingLiang Ma maintained the conference's web site. Christopher Rauh, from Munich, came to Manchester for a week and installed a new version of the legacy software for the submission and review of papers which provided the basis for a fully online reviewing system. Owen LeBlanc provided administration support for the computer systems used to host the conference's web site and the paper management software. Finally, Andrew Yates and Janet Adnams from the Manchester Conference Centre supported us with the handling of registration and local arrangements.

Manchester, June 2001

Rizos Sakellariou  
John Keane  
John Gurd  
Len Freeman



## **Euro-Par 2001 Programme Committee**

### **Topic 01: Support Tools and Environments**

#### **Global Chair**

Michael Gerndt TU München, Germany

#### **Local Chair**

Omer F. Rana University of Wales, Cardiff, UK

#### **Vice Chairs**

Marios Dikaiakos University of Cyprus, Cyprus  
Karen Karavanic Portland State University, USA

### **Topic 02: Performance Evaluation and Prediction**

#### **Global Chair**

Allen D. Malony University of Oregon, USA

#### **Local Chair**

Graham Riley University of Manchester, UK

#### **Vice Chairs**

Mark Bull EPCC, University of Edinburgh, UK  
Tomàs Margalef Universitat Autònoma de Barcelona, Spain  
Bernd Mohr Forschungszentrum Jülich, Germany

### **Topic 03: Scheduling and Load Balancing**

#### **Global Chair**

Yves Robert École Normale Supérieure de Lyon, France

#### **Local Chair**

Rupert Ford University of Manchester, UK

#### **Vice Chairs**

Ishfaq Ahmad Hong Kong University of Science and Technology, Hong Kong  
Henri Casanova University of California, San Diego, USA



## **Topic 07: Applications on High-Performance Computers**

### **Global Chair**

Yoichi Muraoka Waseda University, Japan

### **Local Chair**

David Snelling Fujitsu European Centre for Information Technology, UK

### **Vice Chairs**

Randall Bramley Indiana University, Bloomington, USA  
Harry Wijshoff Leiden University, The Netherlands

## **Topic 08: Parallel Computer Architecture**

### **Global Chair**

André Seznec IRISA/INRIA-Rennes, France

### **Local Chair**

Henk Muller University of Bristol, UK

### **Vice Chairs**

Fredrik Dahlgren Ericsson Mobile Communications, Sweden  
Roger Espasa Universitat Politècnica de Catalunya, Spain

## **Topic 09: Distributed Systems and Algorithms**

### **Global Chair**

Bertil Folliot Université Pierre et Marie Curie, France

### **Local Chair**

Anne-Marie Kermarrec Microsoft Research, UK

### **Vice Chairs**

Giovanni Chiola Università degli Studi di Genova, Italy  
Peter Druschel Rice University, USA

**Topic 10: Parallel Programming: Models, Methods and Programming Languages****Global Chair**

Scott B. Baden	University of California, San Diego, USA
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**Local Chair**

Paul H. J. Kelly	Imperial College, London, UK
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**Vice Chairs**

Sergei Gorlatch	TU Berlin, Germany
Calvin Lin	University of Texas, Austin, USA

**Topic 11: Numerical Algorithms****Global Chair**

Henk van der Vorst	Utrecht University, The Netherlands
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**Local Chair**

Rob Bisseling	Utrecht University, The Netherlands
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**Vice Chairs**

Iain Duff	Rutherford Appleton Laboratory, UK
Bernard Philippe	IRISA/INRIA-Rennes, France

**Topic 12: Routing and Communication in Interconnection Networks****Global Chair**

Ramón Bevide	Universidad de Cantabria, Spain
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**Local Chair**

Chris Jesshope	University of Hull, UK
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**Vice Chairs**

Cruz Izu	University of Adelaide, Australia
Antonio Robles	Universidad Politecnica de Valencia, Spain

**Topic 13: Instruction-Level Parallelism and Architecture****Global Chair**

Guang R. Gao	University of Delaware, USA
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**Local Chair**

Rizos Sakellariou	University of Manchester, UK
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**Vice Chairs**

Eduard Ayguadé	Universitat Politècnica de Catalunya, Spain
Christine Eisenbeis	INRIA-Rocquencourt, France

**Topic 15: Architectures and Algorithms for Multimedia Applications**

**Global Chair**

David De Roure University of Southampton, UK

**Vice Chairs**

Stephan Fischer Mobile Video Communication GmbH, Germany

Paul McKee BT Laboratories, UK

Michael Vernick Lucent Bell Labs, USA

**Topic 16: Cluster Computing**

**Global Chair**

Mark Baker University of Portsmouth, UK

**Local Chair**

John Brooke University of Manchester, UK

**Vice Chairs**

Rajkumar Buyya Monash University, Australia

Ken Hawick University of Wales, Bangor, UK

**Topic 17: Metacomputing and Grid Computing**

**Global Chair**

Alexander Reinefeld Konrad-Zuse-Zentrum für Informationstechnik Berlin, Germany

**Local Chair**

Omer F. Rana University of Wales, Cardiff, UK

**Vice Chairs**

Jarek Nabrzyski Poznan Supercomputing and Networking Centre, Poland

David W. Walker University of Wales, Cardiff, UK

**Topic 18: Parallel I/O and Storage Technology****Global Chair**

Peter Brezany	University of Vienna, Austria
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**Local Chair**

Denis A. Nicole	University of Southampton, UK
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**Vice Chairs**

Toni Cortes	Universitat Politècnica de Catalunya, Spain
Marianne Winslett	University of Illinois, Urbana-Champaign, USA

**Topic 19: Problem Solving Environments****Global Chair**

David W. Walker	University of Wales, Cardiff, UK
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**Local Chair**

Ken Hawick	University of Wales, Bangor, UK
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**Vice Chairs**

Efstratios Gallopoulos	University of Patras, Greece
Domenico Laforenza	CNUCE Institute, CNR-Pisa, Italy

**Topic 20: Parallel and Distributed Embedded Systems****Global Chair**

Stamatis Vassiliadis	TU Delft, The Netherlands
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**Local Chair**

Sorin D. Cotofana	TU Delft, The Netherlands
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**Vice Chairs**

Francky Catthoor	IMEC, Belgium
Mateo Valero	Universitat Politècnica de Catalunya, Spain

## Euro-Par 2001 Referees

(not including members of the programme and organisation committees)

Abdallah, Haiscam	Chapin, Steve
Addison, Cliff	Chatterjee, Sid
Adve, Vikram	Choi, Sung-Eun
Agrawal, Gagan	Chretienne, Philippe
Amaral, Jose Nelson	Ciaccio, Giuseppe
Amarsinghe, Saman	Cilio, Andrea
Amiranoff, Pierre	Cohen, Albert
Ancona, Massimo	Cohen, Norman
Anglano, Cosimo	Coppola, Massimo
Anterrieu, Eric	Corbal, Jesus
Apon, Amy	Costa, Gerardo
Arantes, Luciana	Cox, Simon
Arruabarrena, Agustin	Czumaj, Artur
Ashworth, Mike	Dail, Holly
Atnafu, Solomon	Dal Zilio, Silvano
Ayani, Rassul	Darling, Gordon
Badia, Rosa	Dehnert, Jim
Baiao, Fernanda	Demsky, Brian
Balls, Greg	Dias da Cunha, Rudnei
Bane, Michael	Diaz de Cerio, Luis
Basermann, Achim	Dijkstra, Marjolein
Beaumont, Olivier	Dolbeau, Romain
Beckmann, Olav	Dongarra, Jack
van den Berghe, Sven	Douglas, Craig
Bernholdt, David	Dutheillet, Claude
Berrendorf, Rudolf	Erhel, Jocelyne
Bettini, Lorenzo	Faerman, Marcio
Bischof, Holger	Fagg, Graham
Bobbio, Andrea	Farcy, Alexandre
Bodin, François	Feautrier, Paul
Boudet, Vincent	Feitelson, Dror
Bouganim, Luc	Feo, John
Boutros, Céline	Ferscha, Alois
Brent, Richard	Field, Tony
Burtscher, Martin	Fink, Stephen
Bylaska, Eric	Fischer, Markus
Cahoon, Brendon	Fisler, Kathi
Cardone, Richard	Fladenmuller, Anne
Carpentieri, Bruno	Fournet, Cedric
Casanova, Marco Antonio	Fraigniaud, Pierre
Chamberlain, Bradford	Franceschinis, Giuliana

Franco, Daniel  
Frayssé, Valérie  
Freitag, Lori  
Freitas, Alex  
Froehlich, Antonio  
Ganesh, Ayalvadi  
Garcia, Jordi  
Gatlin, Kang Su  
Gaujal, Bruno  
Geist, Al  
Generowicz, Jacek  
Genius, Daniela  
Gentzsch, Wolfgang  
Gerlach, Jens  
Germain-Renaud, Cécile  
Getta, Janusz  
Giraud, Luc  
Glendinning, Ian  
Gonzalez, Antonio  
Gonzalez, Manuel  
Goossens, Bernard  
Gottschling, Peter  
Graham, Paul  
Gray, Alex  
Gregorio, Jose-Angel  
Guerin-Lassous, Isabelle  
Guivarch, Ronan  
Guralnik, Valery  
Gürsoy, Attila  
Guyer, Samuel  
Guyomarc'h, Frédéric  
Haddad, Serge  
Hajmahmoud, Yanal  
Hammond, Kevin  
Hascoet, Laurent  
Heinrich, Mark  
Henty, David  
Herrmann, Christoph  
Hidrobo, Francisco  
Hill, Steve  
Hogstedt, Karin  
Hollingsworth, Jeff  
Hoteit, Hussein  
Hoy, Jeff  
Hu, Ziang  
Huang, Shing-Tsaan  
Hur, Ibrahim  
Hurfin, Michel  
Huss-Lederman, Steven  
Hyde, Daniel  
Ilié, Jean-Michel  
Inda, Marcia  
Irigoin, François  
Jalby, William  
Jenkins, Kate  
Jimenez, Daniel  
Jin, Hai  
Johnson, Chris  
Johnson, David  
Johnston, William  
Jones, Richard  
Juan, Toni  
Juurlink, Ben  
Karl, Wolfgang  
Katz, Daniel  
Kavoussanakos, Kostas  
Kebbal, Djemai  
Kerridge, John  
Kessler, Christoph  
Kielmann, Thilo  
Kirkham, Chris  
Kleist, Josva  
Klepacki, David  
Knijnenburg, Peter  
Knobe, Kath  
Knottenbelt, William  
Kohn, Scott  
Koster, Jacko  
Kotsis, Gabriele  
Krawczyk, Henryk  
Krstic, Angela  
Kshemkalyani, Ajay  
Kuchen, Herbert  
Kulkarni, Dattatraya  
Kumar, Rishi  
Kuzmanov, Georgi  
Kwiatkowski, Jan  
Lageweg, Casper  
Langou, Julien  
Lanteri, Stéphane

Larrea, Mikel  
 von Laszewski, Gregor  
 Lauwereins, Rudy  
 Le Fessant, Fabrice  
 Lechtchinsky, Roman  
 Leclerc, Tony  
 Lecussan, Bernard  
 Lee, Jonghyun  
 Lee, Kukjin  
 Lester, David  
 Lewis, E.  
 Lifka, David  
 Limousin, Claude  
 Loukopoulos, Thanasis  
 Lourenço, Joao  
 Lowenthal, David  
 Lu, Honghui  
 Lu, Paul  
 Luecke, Glenn  
 Luján, Mikel  
 Luksch, Peter  
 Luque, Emilio  
 Lysne, Olav  
 Ma, Xiaosong  
 Mancini, Luigi  
 Manning, Anna  
 Marcuello, Pedro  
 Marquez, Andres  
 Märtens, Holger  
 Martorell, Xavier  
 Martyna, Glenn  
 Mattoso, Marta  
 Mayes, Ken  
 McMullen, Donald F.  
 Megson, Graham  
 Mehofer, Eduard  
 Melon, Anne  
 Merzky, André  
 Meurant, Gerard  
 Michaud, Pierre  
 Miguel, Jose  
 Mihaĵlović, Milan  
 Miller, Crispin  
 Mitchell, Nick  
 Mohnen, Markus

Moreau, Luc  
 Moreira, Jose  
 Morin, Christine  
 Morrone, Christopher  
 Morvan, Franck  
 Motivala, Ashish  
 Mourlas, Costas  
 Mucci, Phil  
 Müller-Olm, Markus  
 Mussi, Philippe  
 Newhall, Tia  
 Newhouse, Steven  
 Nisbet, Andy  
 Nolte, Jorg  
 Obertelli, Graziano  
 O'Donnell, John  
 Ogston, Elizabeth  
 Oguz, Ceyda  
 Omnes, Thierry  
 Ong, Hong  
 Orduña, Juan Manuel  
 Ortega, Daniel  
 Ould-Khaoua, Mohamed  
 Padua, David  
 Paprzycki, Marcin  
 Parchment, Oz  
 Park, Seungjin  
 Pearce, David  
 Peh, Li-Shiuan  
 Pelagatti, Susanna  
 Peyre, Jean-François  
 Pham, Cong-Duc  
 Philippsen, Michael  
 Piccardi, Massimo  
 Piernas, Juan  
 Pinotti, Maria Cristina  
 Plateau, Brigitte  
 Poitrenaud, Denis  
 Priol, Thierry  
 Pucceli, Riccardo  
 Puente, Valentin  
 Quinlan, Dan  
 Rabhi, Fethi  
 Ramanujam, J.  
 Ramirez, Alex

XVIII Referees

Ranganathan, Parthasarathy  
Rankin, Ricky  
Rantakokko, Jarmo  
Rastello, Fabrice  
Rathmayer, Sabine  
Rauchwerger, Lawrence  
Reeber, Erik  
Reggio, Gianna  
Retalis, Simos  
Ribaud, Marina  
Riual, Jean-Christophe  
Robinson, Guy  
Rodrigues, Luis  
Rodríguez, Casiano  
Roman, Jean  
Roos, Steven  
Rownstron, Antony  
Rubio, Angel  
Rünger, Gudula  
Rüthing, Oliver  
Sahelices, Benjamin  
Sampaio, Sandra  
Sanchez, Jesus  
Santonja, Vicente  
Sazeides, Yiannakis  
Schikuta, Erich  
Schintke, Florian  
Schreiber, Robert  
Schulz, Martin  
Scott, Stephen  
Sebot, Julien  
Seinturier, Lionel  
Sellars, Malcolm  
Sellmann, Meinolf  
Senar, Miquel A.  
Shapiro, Marc  
Shende, Sameer  
Shields, Matthew  
Silva, Claudio  
Silva, Joao Gabriel  
Sivasubramaniam, Anand  
Smith, Alison  
Smith, Garry  
Smith, Jim  
Smith, Lorna

Sousa, Leonel  
Sreedhar, Vugranam  
van der Stappen, Frank  
Stathis, Pyrrhos  
Stéfani, Jean-Bernard  
Stewart, Craig  
van Straalen, Brian  
Su, Alan  
de Supinski, Bronis  
Sura, Zehra  
Suter, Frederic  
Symvonis, Antonios  
Takeda, Kenji  
Takefusa, Atsuko  
Talbi, El-Ghazali  
Tang, Xinan  
Tel, Gerard  
Temam, Olivier  
Tiskin, Alexandre  
Tok, Teck  
Torres, Jordi  
Traff, Jesper Larsson  
Trancoso, Pedro  
Trefethen, Anne  
Trystram, Denis  
Tseng, Chau-Wen  
Tseng, Yu-Chee  
Tyrtysnikov, Evgeni  
Utard, Gil  
Vajtersic, Marian  
Vallejo, Fernando  
Van Oudheusden, Karel  
Vernick, Michael  
Vetter, Jeffrey  
Voemel, Christof  
Walker, Paul  
Wang, C. L.  
Wanka, Rolf  
Wasserman, Harvey  
Watson, Ian  
Weisz, Willy  
Whalley, David  
Wismueller, Roland  
Wong, Stephan  
Worley, Patrick

Wu, Haiping  
Wu, Jie  
Wu, Peng  
Wylie, Brian  
Yang, Hongbo  
Yang, Tao  
Yau, Hon  
Yotov, Kamen  
Yu, Shengke  
Zegeling, Paul  
Zhao, Rongcai  
Zima, Hans