

WORKSHOP

ScalPerf'03: SCALABLE APPROACHES to HIGH PERFORMANCE and HIGH PRODUCTIVITY COMPUTING

April 13-17, 2003

Bertinoro International Center for Informatics

<http://www.cs.unibo.it/bici/>

Sunday, April 13

18:00-21:00 **Reception & Registration** (“Seminario”)

19:30-21:00 **Welcome Buffet** (“Seminario”)

Monday, April 14

08:30-09:00 **Registration**

09:00-09:15 **Welcome**

09:15-10:15 A roadmap for the next generations of commercial multiprocessors
Pratap Pattnaik (IBM Research - T.J. Watson)

10:15-11:15 How to use 170 trillion transistors
Jose Moreira (IBM Research - T.J. Watson)

11:15-11:45 **Coffee**

11:45-12:45 Dedicated massively parallel computing for theoretical physics:
results and perspectives of the APE project
Raffaele Tripiccione (University of Ferrara and INFN)

13:00-14:00 **Lunch**

14:45-15:15 J&T: the node processor for the apeNEXT computer
Laura Sartori (University of Ferrara)

15:15-15:55 The SB-PRAM Project
Roman Dementiev (Max-Planck-Institut für Informatik)

15:55-16:55 Processor organizations for pipelined hierarchical memories
Kattamuri Ekanadham (IBM Research - T.J. Watson)

16:55-17:30 **Coffee**

17:30-18:30 Panel 1: Architectures
Coordinators: *Pratap Pattnaik* and *Raffaele Tripiccione*

20:00-21:00 **Dinner** (“Seminario”)

Tuesday, April 15

- 09:00-10:00 Autonomic computing systems: the challenges of self-management
Walter F. Tichy (University of Karlsruhe)
- 10:00-11:00 Scalability issues in material science and chemistry applications
Carlo Cavazzoni (CINECA)
- 11:00-11:30 **Coffee**
- 11:30-12:00 The INFM parallel computing initiative
Chiara Marchetto (INFM)
- 12:00-13:00 Computational requirements of large scale agent-based models
Filippo Castiglione (IAC-CNR)
- 13:15-14:15 **Lunch**
- 15:00-22:30 **Excursion** to Ravenna
Dinner in Cesenatico (Restaurant “La Buca”)

Wednesday, April 16

- 08:30-09:30 Impact of different memory hierarchies on a real-world code
Federico Massaioli (CASPUR)
- 09:30-10:00 Non-linear non-symmetric FEM simulations: getting high performance computational kernels
Mauro Bianco (University of Padova)
- 10:00-10:30 **Coffee**
- 10:30-11:30 Panel 2: Applications
Coordinators: *Jose Moreira* and *Walter Tichy*
- 11:30-12:30 Models for the design and implementation of efficient algorithms on parallel hierarchical machines
Andrea Pietracaprina (University of Padova)
- 12:45-13:45 **Lunch**
- 14:30-15:00 Translating communication locality into locality of reference in parallel hierarchical machines
Carlo Fantozzi (University of Padova)
- 15:00-15:30 Bulk Synchronous Parallel Computing using idle times of workstation clusters
Olaf Bonorden (University of Paderborn)
- 15:30-16:30 Performance issues in algorithm engineering
Camil Demetrescu (University of Roma “La Sapienza”)
- 16:30-17:00 **Coffee**
- 17:00-18:00 An experimental comparison of empirical and model-driven optimization
Keshav Pingali (Cornell University)
- 20:00-21:30 **Dinner** in Bertinoro (Restaurant “L’Altopalato”)

Thursday, April 17

- 08:30-09:30 Temporal locality is not always portable
Enoch Peserico (University of Padova and MIT)
- 09:30-10:30 Portability of memory maps across memory hierarchies
Gianfranco Bilardi (University of Padova)
- 10:30-11:00 **Coffee**
- 11:00-12:00 Status of Grid computing in Europe, and its readiness
Paolo Capiluppi (University of Bologna and INFN)
- 12:00-13:00 Panel 3: Algorithms and Models
Coordinators: *Andrea Pietracaprina* and *Keshav Pingali*
- 13:00-14:00 **Lunch**
- Adjourn**