Concurrent and Parallel Programming

SAPIENZA
UNIVERSITÀ DI ROMA

Department of Computer, Control, and
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Sapienza, University of Rome

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Lecture Schedule and Information

- Wednesday, 5.30 pm – 7 pm, room A4
- Dates: from October, 1st (it's today! ☺) to December, 17th
- 3 credits course, part of *Elective in Distributed Systems and Computer Architectures*

- Official page: `http://www.dis.uniroma1.it/~hpdcs/cpp`

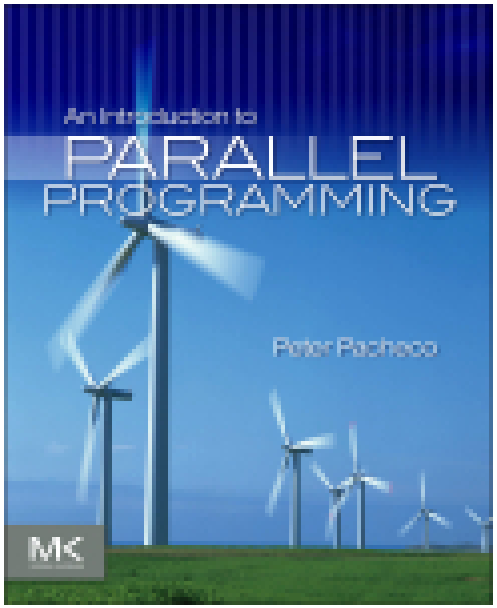
Course Program and Lecturers

- **Advanced Computer Architectures** (Alessandro Pellegrini)
  - Speed-up performance models
  - Parallel Architectures Overview
  - Parallel Architectures Interconnections
  - Current Trends
- **Parallel Programming** (Alessandro Pellegrini)
  - Correctness Conditions
  - Progress Conditions
  - Progress Taxonomy
  - Concurrent Data Structures

Course Program and Lecturers (2)

- **Distributed Programming** (Alessandro Pellegrini)
  - Introduction to MPI
  - Event-Driven Programming and High Performance Simulation
  - Parallel Discrete Event Simulation
  - Synchronization Protocols
  - The ROme OpTimistic Simulator (ROOT-Sim) case study
- **Software Transactional Memories** (Pierangelo di Sanzo)
  - Introduction to Software Transactional Memories
  - Overview on current implementations: TL2, TinySTM, JVSTM, ...
  - Usage Tutorials

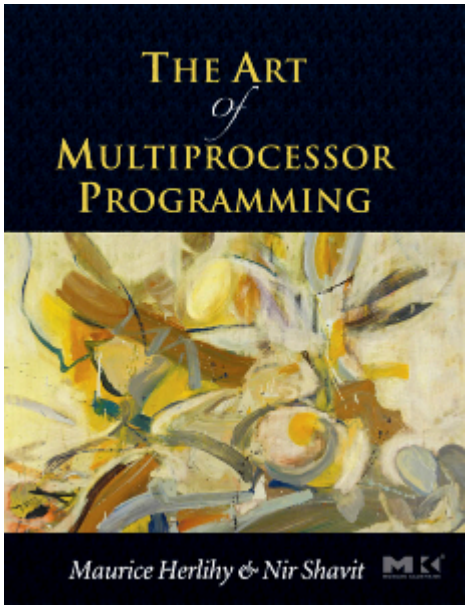
Course Books References



Peter Pacheco

An Introduction to Parallel Programming

ISBN: 978-0-12-374260-5



Maurice Herlihy - Nir Shavit

The Art of Multiprocessor Programming

ISBN: 978-0-12-370591-6

About the Exam

- The exam is divided in two parts:
  - a written test: 4 questions, 1.30 hours (2/5 of the final mark)
  - a practical project (3/5 of the final mark)
  - the written test must be passed *before* starting to work on the project
- A project will be assigned to every student. Passing the final exam will involve:
  - Handing in the implentation of the project
  - Discussing the project
- Projects will be presented during the course. If you think you have a better proposal, dare to tell!
- Projects are unique: different students will be given different projects