



# ICCA'03

4th Internal Conference  
on  
Computer Architecture  
Proceedings



Alberto José Proença (Ed.)  
Dep. Informática, Universidade do Minho, Portugal, Jan-03



**4th Internal Conference on  
Computer Architecture  
(ICCA'03)**

**Proceedings**

*Alberto José Proença (Ed.)*

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**Mestrado de Informática /  
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**Dep. Informática, Universidade do Minho, Braga, Portugal**



# Editor's Message

A PG course in a fast moving technological domain usually accepts applications from students with considerably different backgrounds. To lecture Computer Architecture (CA) in an M. Sc. in Informatics, under these conditions, places a real challenge: how to seduce students with no previous knowledge in CA, and simultaneously motivate those with a solid and updated background. The obvious solution is to customize its contents to each student; but is it feasible for over 20 students, with only one lecturer who already shares his lecturing activities with other academic duties?

The ICCA approach attempts to complement the traditional set of academic lectures - which gives an updated overview of the more relevant topics in CA - with the individual commitment of each student to further explore a particular interest area in CA. ICCA plays with words (Internal is very close to International...) to encourage this new breed of scientists to organize their literature search, to filter the relevant material out of so many available sources, to structure their minds to produce a coherent message to communicate to the fellow "scientists", to practice the basic rules of science report writing (and to follow the author's instructions based on the well known "Lecture Notes on ..."), and to overcome the fear of a public talk.

This is the 4th year where this integrated approach is being applied in CA; this is also the 4th time I have to write this "Editor's Message", and 1st really re-write... Come and visit also ICCA'2002! As the organizer of this event, I proudly state that I am very pleased once again with the enthusiasm the students showed to produce, high quality communications, within tight schedules. Each student will receive a printed copy of the proceedings on the presentation day, and, for the first time, the event is 2-day long and includes a free lunch! The whole content of ICCA'03 is available in <http://gec.di.uminho.pt/discip/minf/ac0203/icca03.htm>.

My sincere congratulations and many thanks to all who contributed once more to make this event a successful one, namely all the M. Sc. students and my colleagues who played the role of external referees and session chairmen (António Joaquim Esteves, António Manuel Pina, João Luís Sobral, João Miguel Fernandes e Luís Paulo Santos).

Braga, 30-Jan-03

*Alberto José Proença*



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# **Session 1**

## **64-bit CPU's**



**Session 2**

**Performance Analysis & Evaluation**



## **Session 3**

# **Smart Cards and Novel Processor Approaches**



# **Session 4**

## **Embedded Systems**





## **Session 5**

# **Application Specific Processors**



## **Session 6**

# **Parallel and Distributed Environments**