## Conference Themes and Goal

Communicating Process Architectures addresses many of the key issues in modern computer science and its application. In broad terms, the conference themes will concern concurrency - at all levels of software and hardware granularity. The goal of the conference is to stimulate discussion and ideas as to the role concurrency will play in the future generation of scalable computer infrastructure and applications - where scaling means the ability to ramp up functionality (i.e. stay in control as complexity increases) as well as physical metrics (such as performance).

Traditionally, concurrency has been taught and considered and experienced as an advanced and difficult topic. The thesis underlying this conference is that this tradition is wrong. The natural world operates through the continuous interaction of massive numbers of autonomous agents at all levels of granularity (astronomic, human, sub-atomic). If modern computer science finds concurrency hard, then it is not doing it right - discuss! It is time for concurrency to mature into a simple discipline that can be used everyday.

## Conference Structure and Call

Communicating Process Architectures will run a mix of submitted and invited papers during the day, with workshops and/or tutorials in the evenings. One session will include a meeting of the BCS Parallel Processing Specialist Group.Submitted papers will be refereed by the Programme Committee. The conference proceedings will be published by IOS Press as part of their Concurrent Systems Engineering series. Selected papers will be invited for further working and submission to a (CPA) Special Edition of the IEE Proceedings - Software, for Journal publication in Spring 2003.

The accepted papers address the conference themes and goals as discussed above. Specific areas include, but are not limited to:

- theory - getting the underlying model right (CSP, pi-calculus, channels, monitors, semaphores, BSP, barriers, buckets...);
- concurrent design patterns and tools (built upon the above);
- safety and security issues (race-hazards, deadlock, livelock, process starvation, ...);
- language issues (Java™, CSP libraries for Java/C/C++, occam™, Handel-C™, ...);
- system issues (lightweight multithreading kernels, lightweight external communications/interrupts, ...)
- processor issues (instruction sets for zero-cost multithreading, VLIW, multiprocessor chips, software cache control, ...)
- specialised hardware issues (link and router technologies, FPGAs, ...);
- shared-memory -v- message-passing paradigms (unification?), SMP and virtual SMP architectures;
- supercomputing from commodity components (cluster computing, Internet grids, ...);
- applications: scientific (including graphics and GUIs), engineering (including embedded, real-time and safety-critical), business (including mobile and e-commerce) and
- home (including entertainment);
- global architectural issues (vertical integration of all the above);

This conference is the 25th in the series of WoTUG conferences, which have consistently proven to be a valuable meeting place for all those interested in the problems and opportunities thrown up by parallel computing and concurrency. The delegates and speakers reflect a wide spectrum of disciplines - theoreticians, software engineers, hardware engineers, tool builders and applications specialists - and we meet in a relaxed, exciting, friendly and highly productive atmosphere ... often till very late the next morning!

## Registration Fees

The registration fee is £330.00 which includes:

- accommodation for the nights of the 15, 16, 17 September 2002;
- all meals, starting with the evening meal on Sunday night, through to Wednesday lunch;
- conference dinner;
- one copy of the conference proceedings.

Student bursaries and details on how to register can be found at:

`http://www.wotug.org/cpa2002/register.shtml`

## Submission Information and Dates

Submissions are now solicited of papers reporting original work in any areas relating to the CPA 2002 conference themes. Papers should be complete or near completion (i.e. there should be sufficient information available to enable the Programme Committee to referee the submission with due diligence). No special formatting style is required at this stage. However, accepted papers will have to adhere to the CPA 2002 format. It is therefore recommended that submissions be made in that style as there is only a short period between final (or conditional) acceptance and the camera-ready deadline. Referees reports will be fed back to all authors of submitted papers. Papers must be submitted by email to:

`cpa2002@wotug.org`

The submissions must be either Postscript, PDF or MS Word Docs and be emailed either as attachments or uuencoded gzips.

## Proceedings on CD-ROM

Starting this year, accepted papers will be made available in the published proceedings and on a conference CD-ROM. The conference CD will be available at CPA 2002 and from the wotug website thereafter.

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|---|---|
| Submission of full papers | 10 June 2002 |
| Tutorial / workshop proposals | 10 June 2002 |
| Notification of acceptance | 24 June 2002 |
| Camera-ready submission | 15 July 2002 |

Table 1: Important Dates

## Conference Chairs

**James Pascoe** and **Roger Loader**

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**Vaidy Sunderam**

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## Student Bursaries

WoTUG is sponsoring a limited number of Student Bursaries, worth £100 sterling. To qualify, you must be registered as a student at a Higher Education institution, not in receipt of a salary and obtain a supporting letter from your academic supervisor. Please fax this to James Pascoe before you register - you will be given a reference number to quote on your registration form. The bursaries will be awarded in FIFO scheduling to qualifying applicants until they run out.

## Published Proceedings

The Proceedings will be published by IOS Press, Netherlands as part of the Concurrent Systems Engineering Series (ISSN 1383-7575). Style sheets for CPA 2002 papers, including LaTeX and MS Word templates, will be available to authors of accepted papers.

## Programme Committee

- Professor Peter Welch **(WoTUG Chair)**
  University of Kent at Canterbury, UK.

- Dr. Alastair Allen, University of Aberdeen, UK.
- Professor Hamid Arabnia
  University of Georgia, Athens, Georgia, USA.
- Richard Beton, Roke Manor Research Ltd., UK.
- Professor Jan F. Broenink
  University of Twente, The Netherlands
- Dr. Alan Chalmers, University of Bristol, UK.
- Professor Peter Clayton
  Rhodes University, South Africa.
- Dr. Barry Cook, 4Links Ltd., UK.
- Ruth A. Ivimey-Cook, ARM Ltd., Cambridge, UK.
- Christopher Jones
  British Aerospace, Warton Aerodrome, UK.
- Professor Jon Kerridge, Napier University, UK.
- Dr. Tom Lake, InterGlossa, UK.
- Dr. Adrian E. Lawrence
  Loughborough University, UK.
- Dr. Roger J. Loader
  The University of Reading, UK.
- Professor David May FRS
  University of Bristol, UK.
- Stephen Maudsley, Esgem Ltd, UK.
- Dr. Majid Mirmehdi, University of Bristol, UK.
- Dr. Henk Muller, University of Bristol, UK.
- Professor Chris Nevison
  Colgate University, New York, USA.
- Professor Patrick Nixon
  University of Strathclyde, UK.
- Dr. Brian O'Neill
  Nottingham Trent University, UK.
- James Pascoe, The University of Reading, UK.
- Dr. Roger Peel, University of Surrey, UK.
- Professor Nan Schaller
  Rochester Institute of Technology, New York, USA.
- Professor G. S. Stiles
  Utah State University, Utah, USA.
- Professor V. S. Sunderam
  Emory University, Georgia, USA.
- Øyvind Teig
  Kongsberg Maritime Ship Systems, Trondheim, (KMSS), Norway.
- Professor Rod Tosten, Gettysburg University, USA.
- Dr. Stephen J Turner
  Nanyang Technological University, Singapore.
- Professor Paul Tymann
  Rochester Institute of Technology, New York, USA.
- Paul Walker, 4Links Ltd, UK.
- Dr. Hugh Webber
  QuinetiQ, Malvern, UK.

# WoTUG

## Communicating Process Architectures - 2002

*Sunday 15th September (evening) to Wednesday 18th September (lunchtime)*

**The University of Reading**

United Kingdom

`http://www.wotug.org/cpa2002/`

In association with The British Computer Society and The Institute of Electrical Engineers