

Call for Papers

Journal of Robotics and Autonomous Systems: *Special Issue on Humanoid Technologies*

The realisation of a humanoid robot hinges upon a great deal of technical “*know-how*”: impact on progress highly depends on such “*know-how*”. The idea of a workshop on **Humanoid Technologies**, held at the *IEEE-RAS International Conference on Humanoid Robots* (Genova, Italy, December 2006), was to draw together research groups in the area of humanoid robotics in examining the past and recent advancements in humanoid technologies, and to propose ways to fast track towards a better future for the development of “*humanoid technologies*” in advancing at large the research field of **Humanoid Robotics**. This call for papers serves as a follow on to the Workshop. (http://eris.liralab.it/wiki/Workshop_humanoids06)

More specifically, while examining the **state-of-the-art** approaches, reliability is now an open issue, to move away from the customary 10-second benchmark experiments of the past, to produce reliable systems tested over long lasting operational demonstrations. Within this context, the old problems of interfacing and integrating different subsystems become more and more significant. From the sensing and control point of view, the paradigm of a centralized computer is not sufficient and, in fact, the emerging approach is based on the development of distributed sensor and control networks. Therefore, system level design, development, maintenance, and upgrading of humanoid robotic platforms require new tools and methodologies.

Papers are solicited to foster the technical aspects of (but not limited to):

- How to exploit distributed and parallel structures for sensing and control;
- How to develop new algorithms and protocols;
- How to integrate heterogeneous components flexibly and with an eye at scalability;
- Whether there is a need for specialized hardware and software (networks and protocols);
- Whether we require programmable vs. hardware devices, industrial state-of-the-art vs. custom chips;
- Whether there is any technological breakthrough along the way: e.g. self-reconfiguring connections.

Important Dates:

Call for papers:	January 31st, 2007
Deadline for Paper Submission:	April 30th, 2007
Reviews to authors:	May 25th, 2007
Final Submission:	June 15th, 2007

Guest Editors:

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Submission of Papers:

Submissions should comply with the publication guidelines for the journal Robotics and Autonomous Systems (<http://ees.elsevier.com/robot/>). They should be sent by email to [gordon@atr.jp] in PDF format. The subject of the email should read "RAS Humanoid Technologies Submission". All submissions must arrive no later than April 30th, 2007.