

=====

## IEEE Transactions on Biomedical Engineering Letters

=====

### Special Issue on: Biomedical Robotics and Biomechatronics - BioRob

=====

#### Background

In October 2008, the second IEEE RAS / EMBS International Conference on Biomedical Robotics and Biomechatronics – BioRob 2008 - was held in Scottsdale (Arizona, USA). BioRob covered both theoretical and experimental challenges posed by the application of robotics and mechatronics in medicine and biology. The primary focus of Biorobotics is to analyze biological systems from a “biomechatronic” point of view, trying to understand the scientific and engineering principles underlying their extraordinary performance. This profound understanding can be used for two main objectives: to guide the design and fabrication of novel, high performance bio-inspired machines and systems, for many different applications; and to develop novel nano-, micro-, macro- devices that can act upon, substitute parts of, and assist human beings in diagnosis, surgery, prosthetics, rehabilitation and personal assistance. BioRob 2008 has been an extraordinary event where many breakthrough ideas and innovative concept for biomedical engineering have been presented. This Special Issue will collect both solicited and un-solicited contributions in the IEEE TBME Letter form. IEEE TBME Letters is a separate but companion publication to IEEE Transactions on Biomedical Engineering (TBME). TBME Letters is aimed at fast publishing of novel breakthrough research at the bleeding edge of rapidly emerging technologies and scientific advances with high potential impact in biomedical applications and health care.

The Special Issue will cover primarily the following topics:

- Instrumentation, real-time systems, sensors, actuators, minimally invasive interventions.
- Medical imaging, reconstruction, analysis, visualization, virtual reality, computer-assisted interventions.
- Biologically-inspired robots.
- Robots as scientific tools in biomedical research.

#### Manuscript Submission

TBME Letters are short papers (up to 4 printed pages) well focused on highly novel scientific and technological advances warranting a fast publication without waiting for a fully exploited validation of the methodology with statistical significance. Since such novel ideas are time sensitive, TBME Letters publication an expedited review process with a decision within six weeks, and expected to be published within 4 months. Consequently, these submissions will not go through multiple manuscript revisions and re-submissions, but instead be a single submission with a final decision after the review process is completed – Manuscripts will be returned without review if it deemed to not fit in the scope of the TBME Letters.

For TBME Letter style and submission modalities, please follow the instructions on the EMBS website <http://tbme.embs.org/>.

#### Important Dates

- Paper submission deadline: February 1, 2009
- Notification of acceptance: April 15, 2009
- Final manuscript due: May 15, 2009
- Publication date: Approx-June Issue, 2009

#### Guest Editors

- Arianna Menciassi, Scuola Superiore Sant’Anna, CRIM Lab, Pisa (Italy) - arianna@sss.up.it
- Auke Ijspeert, EPFL, Swiss Federal Institute of Technology - auke.ijspeert@epfl.ch
- Jaydev P. Desai, University of Maryland, College Park - jaydev@umd.edu