



MECHATRONICS

Call for Papers

Focused Section on Anthropomorphism in Mechatronic Systems

Anthropomorphism has served as a useful guiding principle for design and control of robotic systems in man's pursuit of "making a machine in his own image". The renewed interest in recent years arises from the need to develop human-like robotic and mechatronic systems (and subsystems) to operate, interact with and cohabit in human built-environments.

From a morphological perspective, numerous novel designs have been proposed ranging from prosthetic/robotic hands, for performing dexterous grasping and manipulatory tasks, to lower-limb exoskeletons/walking robots, for enabling ambulation in our homes and the outdoors. From a social perspective, the new generation of robots participates in social interactions with humans, taking and giving verbal and non-verbal cues, and sensing or appropriately evoking human emotional and affective states. This new generation of anthropomorphic mechatronic systems (and subsystems) capitalizes on advances in miniaturization of sensing/actuation and the ongoing revolutions in embedded computation and wireless communication.

This Focused Section of the IEEE/ASME Transactions on Mechatronics (TMECH) is dedicated to the new advances in modeling, design, analysis, control, implementation and validation of such anthropomorphic mechatronic systems being developed as we pursue the dream of reaching the level of mobility, manipulation, fluidity and expressivity of humans. Multidisciplinary papers combining Robotics and Life Sciences (e.g., biomechanical modeling, computational neuroscience) are encouraged. The papers should contain both the theoretical and practical/experimental results and are subject to the TMECH review procedures. Potential topics include but are not limited to:

- State-of-art research and technological development survey in the field
- Issues in anthropomorphic system design and promising solutions
- Conceptual and algorithmic contributions to understanding human motion
- Enabling sensor/actuator/computational technologies
- Experimental results from prototype and fielded systems
- Exoskeletons/Prosthetics/Walking robots
- Facially Expressive and Gestural Robots
- Emulation of the human subsystems (sensory, musculoskeletal etc.)

Manuscript Submission

Please submit the manuscripts in PDF format to <http://mc.manuscriptcentral.com/tmech-ieee>, and indicate on your cover letter that **"This paper is submitted for possible publication in the Focused Section on Anthropomorphism in Mechatronics Systems."** Instructions for authors are available online at: <http://www.ieee-asme-mechatronics.org>. If you have any questions relating to this Focused Section, please email one of the guest editors.

Important Dates:	February 15, 2009	Paper Submission
	May 15, 2009	Completion of First Review
	July 15, 2009	Submission of Revised Paper
	September 1, 2009	Completion of Final Review
	September 15, 2009	Submission of Final Manuscripts and Copyright Forms
	December 2009	Publication

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