



Professor H.L. Galiana, Chairman of The Department of Biomedical Engineering at Rutgers University at McGill (图)

<http://www.firstlight.cn> 2009-09-23

Chair, Biomedical Engineering
Professor, Biomedical Engineering
Associate Member, Otolaryngology
Associate Member, Electrical Engineering BioMedical Engineering Department
Duff Medical Building
3775 University Street, Room 308
Montréal, QC H3A 2B4 Tel: +1-514-398-6738
Fax: +1-514-398-7461
E-mail: henrietta.galiana at mcgill.ca

Dr. Galiana's research interests focus on signal processing and the modelling of control strategies for the orientation of eyes and head, and related issues of platform coordination and sensory fusion. Theoretical predictions are tested in the vestibular clinic for patient evaluation, and by porting to biomimetic robot systems.

Dr. Galiana's work in the field of sensorimotor control involves modelling with topologically relevant circuits. Her work on nystagmus analysis has led to automated methods for the classification of switching segments, applicable to any eye reflex and to other non-linear signals in breathing or spectroscopy. These pre-classification algorithms have allowed the unmasking of unexpected reflex dynamics and led to new hypotheses for both gaze control and arm control. These are demonstrated in real robotic platforms and suggest much simpler strategies for prostheses.

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