PUBLICATIONS

**Journal Papers** (15 published, 6 submitted)

*Computational Neuroscience*

E Burdet (1995), A Neural Network Model of the Adaptive Controller of the Human Arm. *Archives of Physiology and Biochemistry* 103(3)


R Osu, E Burdet, DW Franklin, TE Milner, M Kawato (2003), Different Mechanisms in Adaptation to Stable and Unstable Dynamics, *Journal of Neurophysiology* 90(5):3255-69

DW Franklin, R Osu, E Burdet, M Kawato and TE Milner (2003), Adaptation to Stable and Unstable Dynamics Achieved by Combined Impedance Control and Inverse Dynamics Model, *Journal of Neurophysiology* 90(5): 3270–82

KP Tee, E Burdet, CM Chew and TE Milner (2004), A model of endpoint force and impedance in human arm movements (submitted)


E Burdet, KP Tee, DW Franklin, T Milner, CM Chew and M Kawato (2004), A Computational Model of Adaptation to Stable and Unstable Dynamics (in preparation)

DW Franklin, E Burdet, KP Tee, R Osu, CM Chew, M Kawato and T Milner (2004), Modeling the Adaptation to Stable and Unstable Dynamics (in preparation)

*Human-machine Interaction*

ES Boy, E Burdet, CL Teo and JE Colgate (2003), Experimental Evaluation of Motion Guidance with a Cobot (submitted)


*Robotics and Bioengineering*

E Burdet (1996), Improving the Tracking of Objects by a Robot During the Movements. *Studies in Informatics and Control* 5(3)

J Luthiger and E Burdet (1999), A Modular and Sensor-oriented Motion Planner. *Robotica* 17: 87-95


R Moser, R Gassert, R Moser, D Chapuis, H Bleuler and E Burdet (2004), fMRI Compatible Haptic Interfaces to Study the Brain Mechanisms of Motor Control and Tactile Perception (submitted)

H Zhang, Y Bellouard, E Burdet, R Clavel, AN Poo, DW Hutmacher (2004), Shape Memory Alloy Microgripper for Robotic Microassembly of Tissue Engineering Scaffolds (submitted)

H Zhang, E Burdet, AN Poo and DW Hutmacher (2004), Robotic Microassembly of Tissue Engineering Scaffolds (in preparation)

H Zhang, E Burdet, AN Poo and DW Hutmacher (2004), Microrobotics techniques for Tissue Engineering (in preparation)

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reports

E Burdet, M Honegger and A Codourey (2001), Controllers with Desired Dynamics and Velocity Observer: Theory and Implementation on a 6DOF Parallel Manipulator. Internal Report, COME, National University of Singapore

Peer Reviewed Conference Papers (38 to date)

Computational Neuroscience
E Burdet, P Merz and C Albani (1993), Coordination of Arm Movements in a Complex Visual Environment, 14th Congress of the International Society of Biomechanics

E Burdet, R Osu, DW Franklin, TE Milner and M Kawato (1999), Measuring stiffness during arm movements in various dynamic environments. Proc. ASME International Mechanical Engineering Congress and Exposition (IMECE), 421-428


KP Tee, E Burdet, CM Chew and TE Milner (2003), Investigating Motor Adaptation to Stable and Unstable Tasks Using Haptic Interfaces, EMG and fMRI. Proc. Annual Meeting of the Society of Instrumentation and Control Engineering (SICE) (invited)
**Human-machine Interaction**

E Burdet, CL Teo and HP Lim (2002), A Robotic Teacher for Chinese Ideograms. Haptic Symposium, IEEE International Conference on Virtual Reality (IEEEVR)


KM Lim, T Poston, L Zhang, BF Liu, CL Teo and E Burdet (2002), Multi-scale simulation for a robotic surgical trainer. International Conference on Biomedical Engineering (ICBME)

ES Boy, E Burdet, CL Teo and JE Colgate (2003), Experimental Investigation of Motion Guidance with the Scooter Cobot. Haptic Symposium, IEEE International Conference on Virtual Reality (IEEEVR)


F Wang, T Poston, CL Teo, KM Lim and E Burdet (2004), Multisensory Learning Cues Using Analytical Collision Detection Between a Needle and a Tube. Haptic Symposium, IEEE International Conference on Virtual Reality (IEEEVR) (accepted)

**Robotics and Bioengineering**


H Zhang, E Burdet, AN Poo and DW Hutmacher (2002), 3D robotic micro-assembly of tissue engineering scaffolds with a shape memory alloy gripper. IEEE International Conference on Robotics and Automation (ICRA)

H Zhang, E Burdet, AN Poo and DW Hutmacher (2002), Fabrication of Novel Architectures by 3D Robotic Assembly. Proc International Conference on Biomedical Engineering (ICBME)


H Zhang, F Chollet, E Burdet, AN Poo and DW Hutmacher (2003), Fabrication of micro-parts to be assemble as scaffolds in tissue engineering applications. Proc International Conference on Material for Advanced Technologies (ICMAT)

H Zhang, Y Bellouard, E Burdet, R Clavel, AN Poo, DW Hutmacher (2004), Dynamic Properties of a Shape Memory Alloy Microgripper for Microassembly of Tissue Engineering Scaffolds, IEEE International Conference on Robotics and Automation (ICRA) (submitted)

Abstracts (5)
- E Burdet, R Osu, DW Franklin, TE Milner, M Kawato (2000), Learning Impedance to Stabilize Unstable Dynamics: II. Direct Evidence in Multijoint Movements. Society for Neuroscience abstract
- DW Franklin, R Osu, E Burdet, M Kawato and TE Milner (2002), Impedance Control and Internal Models: Muscle Level Adaptation Mechanisms Used in Both Stable and Unstable Environments. Society for Neuroscience abstract
- DW Franklin, R Osu, E Burdet, M Kawato and TE Milner (2003), Optimal Impedance Adaptation in Stable and Unstable Environments. Society for Neuroscience abstract

Ph.D. Thesis

Patents applications
- BH Lim, E Burdet, T Poston and J Rappel (2002), Dimensional change tracking on biological membranes. Disclosure, Industrial and Technology Relations Office, National University of Singapore

Videos (peer-reviewed)
H Zhang, E Burdet, AN Poo and DW Hutmacher (2003), Robotic microassembly of scaffolds for tissue engineering. Video Proc. IEEE International Conference on Robotics and Automation (ICRA)

Selected Media Coverage

Skillful Manipulation Elucidated (In Japanese), Yomiuri (Japan), Nov. 22, 2001
Stiff Challenge of Instability, Nature (UK), Science Update, Dec 4, 2001
Designing Robots to Help Humans Move, Innovation Magazine (Singapore), Vol. 2(4), March 2002