

# Will-To-Win Symposium

**April 27, 2004**

**3:00-3:10 Welcome** - Dr. David McCrea, Director, Spinal Cord Research Centre, Professor, Department of Physiology

**3:10-3:30** Dr. Serge Rossignol, University of Montreal  
*"Pharmacological, electrical and physiological stimulation to evoke locomotion after spinal lesion"*

**3:30-3:45** Dr. Reggie Edgerton, University of California, Los Angeles  
*"Animal Models for understanding recovery from spinal cord injury".*

**3:45-4:10 Coffee Break**

**4:10-4:30** Dr. Vivian Mushahwar, University of Edmonton  
*"Restoring function after spinal cord injury. Where do we stand?"*

**4:30-4:50** Dr. John Downie, Dalhousie University  
*"Drug-based approaches to managing neurogenic bladder and bladder-sphincter dyssynergia"*

**4:50-5:00 Closing**

## Public Lecture 7:00-8:00PM



**Dr. Susan Harkema**, Brain Research Institute, UCLA

Dr. Harkema is a pioneer in restoring function after spinal cord injury in humans. She leads an energetic group of physiotherapists and scientists who use training strategies to recover function following spinal injury. By employing a body harness to adjust body weight support and manual assistance to produce normal leg movements, patients are trained to make stepping movements on a treadmill. With repeated training the spinal cord progressively learns to make better stepping movements, sometimes with dramatic results. Dr. Harkema's studies further our knowledge about the fundamental mechanisms that control human locomotion and how spinal circuits can be trained and used after neurologic injury. They are key to the development of strategies for the rehabilitation of patients after neurologic injury.  
[www.harkema.ucla.edu](http://www.harkema.ucla.edu).

***"Locomotor training after human spinal cord injury for the recovery of walking."***

**Reception to follow on the Joe Doupe Concourse**

**April 28, 2004**

**9:00-9:05 Welcome** - Dr. David McCrea, Director, Spinal Cord Research Centre, Professor, Department of Physiology

**9:05-9:45** Dr. Brian Schmidt, SCRC, University of Manitoba  
*"Propriospinal neurons controlling locomotion: Distribution and activation."*

Dr. Larry Jordan, SCRC, University of Manitoba  
*"Propriospinal neurons controlling locomotion: Identification of candidate neurons."*

**9:45-10:30** Dr. Serge Rossignol, University of Montreal  
*"The importance of mid-lumbar segments for spinal locomotion."*

**10:30-10:45 Coffee Break**

**10:45-11:30** Dr. Vivian Mushahwar, University of Edmonton  
*"Distributed nature of locomotor networks in the adult cat"*

**11:30-12:00** Dr. David McCrea, SCRC, University of Manitoba  
*"Towards a realistic computational model of the locomotor CPG. Are you kidding?"*

**12:00-12:45 Lunch**

**12:45-1:30** Dr. John Downie, Dalhousie University  
*"Neural sprouting and bladder/sphincter dysfunction after spinal cord injury."*

**1:30-1:45** Dr. Susan Shefchyk, SCRC, University of Manitoba  
*"Contribution of intrinsic neuronal properties to continence and micturition."*

**1:45-2:00** Dr. Brent Fedirchuk, SCRC, University of Manitoba  
*"Lowering the spike threshold of spinal neurons: a new role for descending monoamines."*

**2:00-2:45** Dr. Robert Brownstone, Division of Neurosurgery, Halifax  
*"Molecular biological approaches in the study of spinal cord motor networks."*

**2:45-3:00 Coffee Break**

**3:00-3:45** Dr. Susan Harkema, University of California, Los Angeles  
*"Interneuronal properties of the functionally isolated human spinal cord."*

**3:45-4:30** Dr. Reggie Edgerton, University of California, Los Angeles  
*"Standing, stepping, and stumbling in spinal animals."*

**4:30-5:00 Discussion & Closing**