

# Centre for Vision Research

Director: John K. Tsotsos, Professor and CRC in Computational Vision  
Admin. Assistant: Teresa Manini  
Address: Rm. 0009 Computer Science and Engineering Bldg.  
Telephone: (416) 736-5659  
Fax: (416) 736-5857  
Website: cvr.yorku.ca

## **Background and Mandate**

Our mandate is to pursue interdisciplinary research and training in the broadly-defined visual sciences and their applications. The sense of vision does not stand alone: it is the primary input not only for understanding the world around us, but also for guiding action in the world, for determining interaction with the world and inherently integrates with the other sensory processes. The CVR provides a simple and effective infrastructure that provides members with maximal freedom in pursuing their research programmes while encouraging collaboration among members and across disciplines.

## **Organizational Structure and Staffing**

Director  
Associate Director  
CVR Steering Committee (see below)  
Administrative Assistant  
Technical Staff

### **CVR Steering Committee 2002/03**

Director	John K. Tsotsos
Associate Director	Laurence Harris
Academic Coordinator	Hugh Wilson
Facilities Coordinator	Rob Allison
Seminar Coordinator	Laurence Harris
Ex-officio	Ian P. Howard
Member-at-large	Martin Regan
Member	Richard Wildes
Member	Allison Sekuler (rep. for adjuncts)

### **York University Faculty Affiliated with the Centre (2002-2003)**

Scott Adler	Assistant Professor of Psychology Interests: the relation between cognitive and visual processes in young infants.
Rob Allison	Assistant Professor of Computer Science Research Associate, Human Performance Laboratory Interests: stereoscopic vision, perceptual issues in virtual environments, eye movements.

**Members cont'd.**

- Doug Crawford Associate Professor of Psychology, Biology, and Kinesiology & Health Sciences  
Associate Director, York Centre for Vision Research  
Canada Research Chair in Visual-Motor Neuroscience  
Interests: three-dimensional eye and head movements, eye-hand coordination, Trans-saccadic perceptual integration, modeling, neurophysiology.
- James Elder Associate Professor of Psychology, Computer Science, and Mathematics  
Project Leader, Human Performance Laboratory  
Interests: visual psychophysics, computational vision, visual telepresence.
- Keith Grasse Associate Professor of Psychology and Biology (currently on leave).  
Interests: neurophysiology of the visual system, eye movements, auditory neurophysiology, neuropharmacology.
- Laurence Harris Professor of Psychology and Biology  
Interests: perception and coding of space and self motion.
- Ian Howard Distinguished Research Professor of Psychology and Biology  
Interests: space perception, eye movements, visual-vestibular interactions.
- Richard Hornsey Associate Professor of Computer Science and Physics  
Interests: integrated electronic sensors, biologically inspired image sensors, low vision enhancement systems, sensors for space applications.
- Michael Jenkin Professor of Computer Science  
Project Leader, Human Performance Laboratory  
Interests: computer vision, mobile robotics, immersive visual displays.
- Hiroshi Ono Distinguished Research Professor of Psychology  
Interests: visual perception of direction and distance, eye movements.
- David Regan CAE/NSERC Industrial Research Professor.  
Distinguished Research Professor of Psychology and Biology, York University  
Professor of Ophthalmology and Medicine, University of Toronto  
Fellow of the Royal Society of Canada  
Foreign Fellow of the Royal Netherlands Academy of Science  
Interests: psychophysics of spatial vision, motion, stereopsis, colour vision, vision aviation, visually evoked magnetic and electrical brain activity, visual disorders, auditory psychophysics.
- Josée Rivest Associate Professor of Psychology, Glendon College, York University  
Department of Psychology of the Baycrest Centre for Geriatric Care  
Interests: neuropsychology, object recognition, multiple attributes in visual processing.

## Members cont'd.

- Lauren Sergio      Assistant Professor of Kinesiology  
Interests: neural mechanisms of visually guided reaching in parietal and precentral cortex.
- Minas Spetsakis      Associate Professor of Computer Science  
Interests: computer vision and robotics.
- Paul Stager      Professor of Psychology  
Research Associate, Human Performance Laboratory  
Interests: human engineering in aerospace performance and system design
- Martin Steinbach      Distinguished Research Professor of Psychology and Biology  
Director, Vision Science Research, Toronto Western Hospital  
Senior Scientist, Dept. of Ophthalmology, Hospital for Sick Children  
Director of Research, Department of Ophthalmology, University of Toronto  
Interests: eye movements, visual-motor coordination, clinical disorders of the oculomotor system.
- Wolfgang Stuerzlinger      Assistant Professor of Computer Science  
Interests: human-computer interaction, virtual reality, computer graphics.
- Evan Thompson      Associate Professor of Philosophy  
Interests: philosophical foundations of cognitive science and perception
- John Tsotsos      Professor, Dept. of Computer Science, York University  
Director, Centre for Vision Research, York University  
Canada Research Chair in Computational Vision  
Adjunct Professor, Dept. of Computer Science, University of Toronto  
Associate Professor, Dept. of Medicine (Cardiology), University of Toronto  
Professor, Dept. of Ophthalmology, University of Toronto  
Visiting Scientist, Centre for Advanced Studies, IBM Canada, Toronto Labs  
Adjunct Professor, Dept. of Computer Science, University of Western Ontario  
Interests: human and machine vision, computational models of attention, visual motion understanding, robotics.
- Laurie Wilcox      Associate Professor of Psychology  
Interests: stereopsis/depth perception.
- Richard Wildes      Associate Professor of Computer Science  
Interests: spatiotemporal analysis of visual information, motion analysis, binocular vision, gesture recognition, biometrics.

**Members cont'd.**

- Frances Wilkinson Professor and Chair of Psychology, Atkinson College  
Affiliated Scientist, Division of Applied and Interventional Research, Toronto  
Western Research Institute, University Health Network, Toronto  
Adjunct Professor - Department of Ophthalmology, University of Toronto  
Interests: involvement of the visual system in migraine; intermediate visual form  
perception using psychophysical, computational and fMRI methodologies.
- Hugh Wilson ORDCF Chair of Biological and Computational Vision  
Fellow, Optical Society of America  
Interests: psychophysical and neural models of form vision; fMRI studies of  
cortical form vision, nonlinear dynamics of cortical function.

**Activities in 2002/2003**

Grant/contract 5,419,298

In June, 2003, the Centre hosted an International Conference on “Visual Processing of Spatial form Defined by Luminance, Colour, Motion, Texture and Binocular Disparity” which celebrated the career of David M. Regan.

**Honours and Awards (Detailed list see CVR Website – Annual Report 02/03)****Publications 20/03 (Detailed list see CVR Website - Annual Report 02/03)**

Books –	6
Chapters in Books –	28
Papers in Referred Journals –	71
Published Proceedings –	83
Presentations at Conference	39
Technical Reports –	3
Patents -	2
Colloquia -	43

## **CVR Seminar Series 2002/03**

Stan Klein	UC Berkeley
David Prime	UBC
Rumi Yamauchi	Japan
Richard Dyde	CVR
Sven Wachsmuth	U Toronto
Steven Harnad	UQAM
Pat Bennett	Mc/CVR
Hiro Ono	York
Brian Corneil	Queens
Susanne Ferber	U. Toronto
Benjamin Thompson	Sussex, UK
Nikos Paragios	Siemens Corp. Res.
Rich Krauzlis	Salk Institute
John Kennedy	U Toronto
Jay Pratt	U. Toronto
Matthias Niemeier	CVR
Tuan Cao-Huu	Glendon
Greg Dudek	McGill
Sven Dickinson	U. Toronto
Julio Martinez-Trujillo	CVR
Mike Smith	CVR
Pieter Medendorp	CVR
David Shore	McMaster
Dave Tomlinson	U.Toronto
Denis Pelisson	Bron, France
Steve Shevell	U. Chicago
J. Wen, S. Rushton	YorkU/CVR

## **Teaching**

### **Graduate Student Supervision (Detailed list see CVR Website – Annual Report 02/03)**

MA - 11

MSc - 31

PHD - 33

### **Research - Faculty research interests included above (Detailed list see CVR Website - Annual Report 02/03)**

**Adjunct Professors - 15**

**Research Associates - 22**

**Post-Doctoral Fellows - 19**

**Total Grants for 2002/03 – \$5,416,298**

Not included are undergraduate work study student.