

Centre for Vision Research

July 1, 2010-June 30, 2011

Director:	Hugh Wilson
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1. Mandate of the Unit

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.

2. Organizational Structure of the Unit

Director
Associate Director
CVR Steering Committee (see below)
Administrative Assistant
Systems Administrator

CVR Steering Committee 20010/11

Director	Hugh Wilson
Associate Director	Laurie Wilcox
Appointed by the Director	Richard Wildes
Member	Laurence Harris
Member	Richard Murray
Member	Jennifer Steeves
Member	Carol Westall, Adjunct Rep.

3. Active Membership List

York University Faculty Members of the Centre (2010-2011)

Scott Adler	Associate Professor of Psychology Interests: development of eye movement control, visual selective attention, object recognition, and visual expectations
Rob Allison	Associate Professor of Computer Science Interests: stereoscopic vision, perceptual issues in virtual environments, eye movements
Doug Crawford	Professor of Psychology, Biology and Kinesiology and Health Science Canada Research Chair in Visual-Motor Neuroscience Chair, Neuroscience Diploma Program Interests: three-dimensional eye and head movements, eye-hand coordination, trans-saccadic perceptual integration, modeling, neurophysiology
Joseph DeSouza	Assistant Professor of Psychology, Biology and Neuroscience Diploma, Interests: systems neuroscience, frontal cortex, attention, fMRI, corollary discharge, eye position signals and oculomotor neurophysiology
James Elder	Associate Professor of Psychology, Computer Science, and Mathematics Interests: human and computer vision
Mazyar Fallah	Assistant Professor of Kinesiology and Health Science Interests: visual perception and attention, object processing, oculomotor systems.
Laurence Harris	Professor of Psychology, Biology and Kinesiology and Health Science Interests: multisensory processing, perception and coding of space, time, the body and self-motion
Denise Henriques	Associate Professor Kinesiology and Health Science and Psychology Interests: motor learning, multisensory integration, visuomotor control, eye-hand coordination
Kari Hoffman	Associate Professor of Psychology Interests: face processing, learning, memory and plasticity, sleep oscillations
Ian Howard	Distinguished Research Professor of Psychology and Biology Interests: space perception, eye movements, visual-vestibular interactions
Richard Hornsey	Professor of Computer Science and Physics Associate Dean, Faculty of Science and Engineering Interests: integrated electronic sensors, biologically inspired image sensors, low vision enhancement systems, sensors for space applications

Michael Jenkin	Professor of Computer Science Interests: computer vision, mobile robotics, immersive visual displays
Richard Murray	Associate Professor of Psychology Interests: visual psychophysics, spatial vision, 3D shape perception
Hiroshi Ono	Distinguished Research Professor of Psychology Interests: visual perception of direction and distance, eye movement
David Regan	CAE/NSERC Industrial Research Professor Distinguished Research Professor of Psychology and Biology 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 Department of Psychology, Baycrest Centre for Geriatric Care Interests: neuropsychology, face and object recognition, rehabilitation of visual neglect
Keith Schneider	Associate Professor of Biology Director of Neuroimaging Laboratory Interests: neural mechanisms of attention and perception; phenomenology of attention; fMRI
Lauren Sergio	Associate Professor of Kinesiology and Health Science Interests: neural mechanisms of visually guided reaching in parietal and precentral cortex
Minas Spetsakis	Associate Professor of Computer Science Interests: computer vision and robotics
Jennifer Steeves	Associate Professor of Psychology Adjunct Scientist Neurosciences and Mental Health, The Hospital for Sick Children Research Institute Adjunct Associate Professor, Department of Ophthalmology and Vision Sciences, Faculty of Medicine, University of Toronto Interests: face and scene processing in neurological patients and one-eyed observers
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 Professor of Computer Science

Interests: human-computer interaction, virtual reality, computer graphics

Christine Till

Assistant Professor of Psychology

Interests: brain injury across the lifespan; pediatric multiple sclerosis; cognitive recovery following traumatic brain injury (TBI) in adults; maternal fetal health; children's environmental health; visual toxicity

John Tsotsos

Distinguished Research Professor of Vision Science

Professor of Computer Science

Canada Research Chair in Computational Vision

Adjunct Professor, Dept. of Computer Science, University of Toronto

Adjunct Professor, Dept. of Ophthalmology, University of Toronto

Interests: human and machine vision, computational models of attention, motion understanding, robotics

Laurie Wilcox

Professor of Psychology

Associate Director, Centre for Vision Research

Graduate Director, Department 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

Frances Wilkinson

Professor of Psychology

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

Director, Centre for Vision Research

Fellow, Canadian Institute for Advanced Research

Fellow, Optical Society of America

Interests: psychophysical and neural models of form vision; fMRI studies of cortical form vision, nonlinear dynamics of cortical function

Membership Categories

The steering committee will assign each person to the category that it feels fits best. New members appointed by director with advice from steering committee. The goal is to ensure all members have opportunity to influence the CVR.

Member - Tenured or tenured-stream York Faculty who are active in research and primary research interest is consistent with CVR mandate

Associate - Contractually-limited York faculty who are active in research and interest is strongly relevant to CVR mandate

Sr. Research Associate - Sr. Research Associates who are active in research and interest is strongly relevant to CVR mandate

Affiliate - Research Associates, graduate students, post-doctoral fellows, visitors, programmers, industrial partners, administrative assistants, staff (sponsored by a CVR Member, Associate or Adjunct)

Adjunct - Faculty outside York who would have qualified for Member or Associate status or who is a collaborator of a Member or Associate

Benefits of Membership

Member - use of CVR facilities/labs; use of administrative assistant and/or secretary; eligible for membership on steering committee; eligible to be a CVR grant PI; included on CVR web pages, brochure; eligible as primary supervisor of CVR graduate student; eligible for overhead sharing

Associate - use of CVR facilities/labs; use of CVR technical staff for your lab; use of administrative assistant and/or secretary; eligible for membership on steering committee; eligible to be a CVR grant PI; included on CVR web pages, brochure;

Sr. Research Associate - use of CVR facilities/labs; use of administrative assistant and/or secretary; included on CVR web pages, brochure

Affiliate - use of selected CVR facilities/labs; use of administrative assistant and/or secretary; included on CVR web pages, brochure

Adjunct - enjoys regular visits to CVR (minimum, one day per month); desk to work at while visiting; use of selected CVR facilities/labs; included on CVR web pages, brochure; co-investigator status on CVR grants; small honorarium for expenses; eligible as co-supervisor of CVR graduate student

Renewal/Review/Termination of Membership

- Continued membership to CVR includes participation (i.e. seminars, attending annual retreat, bi-annual conference, submission to the annual report and CVR brochure)
- Mid-term review of Director
- Service category to be added to the CVR Annual report
- Problem cases will be dealt with by sending a letter to the member.

4. **Activities of the Unit**

- **Grants (CVR) for 2010/11 - \$1,871,490**
- **Grants (Overall) for 2010/11 – \$ 3,391,391**

- Ian Howard Lecture Series. This named lecture series brought two outstanding senior vision scientists to York to present overviews of their research: Dr. Ralph D. Freeman, University of California, Berkeley and Dr. Giacomo Rizzolatti, University of Parma, Italy. The series is a continued success, so CVR will continue the Ian Howard Lectures indefinitely.

- Weekly Seminar Series. In addition to the Ian P. Howard lectures, the CVR hosts a regular Friday seminar series throughout fall and winter semesters.

- Vision Research Summer School for undergraduates. In an effort to attract more outstanding graduate students to York to do research with faculty in CVR, the CVR Summer School in Visual Science 2011 for undergraduates was held on May 16-20. Over 100 students from around the world applied to participate, and the top 24 were chosen to attend with all expenses paid. Students came from Canada, the US, and several foreign countries. All were uniformly impressed by the research presentations and lab experiences with CVR faculty. We are very optimistic that this will translate into more outstanding applicants to do graduate research at CVR, but we will not know until graduate applications are all submitted in February 2012.

- The biannual international conference was held June 15-18 2011. The topic was “Plastic Vision.” Details at <http://cvr.yorku.ca/conferences>. It was well attended by an international audience. As for all previous CVR conferences the proceedings will be published as a book. This one will be published by Cambridge University Press.

- The Sherman Health Sciences Research Centre was opened in the fall of 2010.

- The fMRI machine was installed in the SHRC in fall 2010.

- Publications for 2010/11:

Books	-	2
Chapters in Books	-	13
Refereed Journals	-	95
Proceedings	-	123
Conference Presentations	-	31
Colloquia	-	29
Technical Reports	-	10

5. **Measures taken to Promote Equity as Enunciated in the University Academic Plan**

The CVR is an interdisciplinary research group in vision. As such, our seminar series and international conference are designed to foster interdisciplinary research and collaborations. As the largest and most prominent vision research group in Canada, we feel that we are highly successful in this endeavour. As all faculty are hired by academic departments at York, CVR is not permitted to hire any faculty. However, our membership reflects broad diversity in accordance with equity guidelines.

6. **Statement of Operations** (Teresa will provide e-report)

Include the statement for the previous fiscal year-end (closing statement for the month of April) for all operating and endowment accounts.

7. **Budget for Current Fiscal Year** (Teresa will provide e-report)

8. **Graduate Training Activities/Accomplishments**

MA	-	16
MSc	-	26
PhD	-	45
Post-Doctoral Fellows	-	15
Research Scientists	-	9

9. **Any Changes in Physical Space at the Unit**

The CVR now occupies the ground floor of the SHRC

10. **List of all Contractual Obligations Entered into By or on Behalf of the Unit**

The CVR as a whole did not enter into any contractual obligations during 2010-2011