Centre for Vision Research 2004/05

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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 Systems Administrator Technical Staff

CVR Steering Committee 2004/05

John K. Tsotsos Director Associate Director Doug Crawford Academic Coordinator **Hugh Wilson** Facilities Coordinator **Rob Allison** Seminar Coordinator Laurence Harris Ex-officio Ian P. Howard Member James Elder Member Richard Wildes

Member Sven Dickinson (rep. for adjuncts)

York University Faculty Affiliated with the Centre (2004-2005)

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 & Health Sciences

Canada Research Chair in Visual-Motor Neuroscience

Associate Director, Centre for Vision Research

Interests: three-dimensional eye and head movements, eye-hand coordination, Trans-saccadicperceptual integration, modeling,

neurophysiology

James Elder Associate Professor of Psychology, Computer Science, and Mathematics

Project Leader, Human Performance Laboratory

Interests: human and computer vision

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

Denise Henriques Assistant professor Kinesiology and Health Science (KAHS), and

Psychology

Interests: motor learning, multisensory integration, visuomotor

control, eye-hand coordination

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

Interests: computer vision, mobile robotics, immersive visual displays

Hiroshi Ono Distinguished Research Professor of Psychology

Interests: visual perception of direction and distance, eye movement

Members cont'd.

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, face and object recognition, rehabilitation of visual

neglect

Lauren Sergio Associate Professor of Kinesiology and Health Sciences

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

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 Associate 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 Adjunct Professor, Dept. of Ophthalmology, University of Toronto

Interests: human and machine vision, computational models of attention, visual

motion understanding, robotics

Members cont'd.

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

Frances Wilkinson Professor of Psychology, Atkinson Faculty of Liberal &

Professional Studies

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, Canadian Institute for Advanced Research

Director, CIHR Training Grant in Vision Health 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

Activities in 2004-2005

In June 2005, the Centre hosted the International Conference on Computational Vision in Neural and Machine Systems with over 275 participants worldwide.

Publications – 2004-2005

Books -	2
Chapters in Books -	16
Papers in Referred Journal -	91
Published Proceedings -	124
Technical Reports -	1
Conference Presentations -	89
Colloquia and Inivited Talks-	39
CVR Colloquium Series-	38

Graduate Student Supervision

MA - 8 **MSc** - 31 **PHD** - 43

Research - Faculty research interests included above

Adjunct Professors - 14 Research Associates - 17 Post-Doctoral Fellows - 19