

High-impact articles from CVR members since 2000 (updated December, 2015)

NATURE (impact factor 36)



1. Womelsdorf T, Fries P, Mitra PP, Desimone R. (2006) Gamma-band synchronization in visual cortex predicts speed of change detection. *Nature* 439:733-6.
2. Niemeier M, Crawford JD, Tweed DB. (2003) Optimal transsaccadic integration explains distorted spatial perception. *Nature*. 422:76-80.
3. Schreiber K, Crawford JD, Fetter M, Tweed D. (2001) The motor side of depth vision.. *Nature*. 410:819-22.
4. Wilson HR, Blake R, Lee SH. (2001) Dynamics of travelling waves in visual perception. *Nature*. 412: 907-10.
5. Petitto LA, Holowka S, Sergio LE, Ostry D. (2001) Language rhythms in baby hand movements. *Nature* 413:35-36.

SCIENCE (impact factor 31.3)



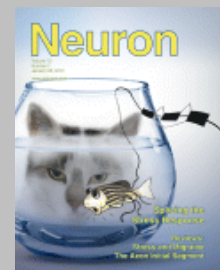
1. Womelsdorf T, Schoffelen JM, Oostenveld R, Singer W, Desimone R, Engel AK, Fries P. (2007) Modulation of neuronal interactions through neuronal synchronization. *Science*. 316: 1609-12.
2. Klier EM, Wang H, Constantin AG, Crawford JD. (2002) Midbrain control of three-dimensional head orientation. *Science*. 295:1314-6.
3. Crawford J.D. (2002) Everything old is new again? *Response*. *Science* 297: 336
4. Hoffman KL, McNaughton BL. (2002) Coordinated reactivation of distributed memory traces in primate neocortex. *Science*. 297:2070-3.

ANNUAL REVIEW NEUROSCIENCE (impact factor 26.8)



1. Crawford JD, Henriques DY, Medendorp WP. (2011) Three-dimensional transformations for goal-directed action *Annu Rev Neurosci*. 34: 309-31.

NEURON (impact factor 15)



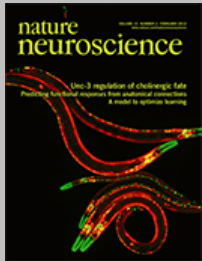
1. Vinck* M, Womelsdorf* T, Buffalo EA, Desimone R, Fries P. (2013) Attentional modulation of cell-class-specific gamma-band synchronization in awake monkey area V4. *Neuron*. 80(4):1077-89.
2. Bosman CA, Schoffelen JM, Brunet N, Oostenveld R, Bastos AM, Womelsdorf T, Rubehn B, Stieglitz T, De Weerd P, Fries P. 2012. Attentional stimulus selection through selective synchronization between monkey visual areas. *Neuron* 75:875-888.
3. Blohm G, Crawford JD. (2009) Fields of gain in the brain. *Neuron*. 64: 598-600.
4. Ajemian R, Green A, Bullock D, Sergio L, Kalaska J, Grossberg S. (2008) Assessing the function of motor cortex: single-neuron models of how neural response is modulated by limb biomechanics. *Neuron*. 58: 414-28.
5. Martinez-Trujillo JC, Medendorp WP, Wang H, Crawford JD. (2004) Frames of reference for eye-head gaze commands in primate supplementary eye fields. *Neuron*. 44: 1057-66
6. Sundberg KA, Fallah M, Reynolds JH. (2006) A motion-dependent distortion of retinotopy in area V4. *Neuron*. 49: 447-57.

- Moore T, Armstrong KM, Fallah M. (2003) Visuomotor origins of covert spatial attention. *Neuron*. 40: 671-83.
- Goltz HC, DeSouza JF, Menon RS, Tweed DB, Vilis T. (2003) Interaction of retinal image and eye velocity in motion perception. *Neuron*. 39: 569-76.
- Fallah M, Reynolds JH. (2001) Attention! V1 neurons lining up for inspection. *Neuron*. 31: 674-5.

Trends in Neurosciences (impact factor 14.5)

- Womelsdorf T, Everling S (2015) Long-Range Attention Networks: Circuit Motifs Underlying Endogenously Controlled Stimulus Selection. *Trends in Neuroscience*. 38:11 682-700

NATURE Neuroscience (impact factor 14)



- Womelsdorf, T., Valiante, T., Sahin, N.T., Miller, K.J., Tiesinga, P. (2014) Dynamic circuit motifs underlying rhythmic gain control, gating and integration. *Nat Neurosci*. 17, 1031–1039.
- Jordan H, Fallah M, Stoner GR. (2006) Adaptation of gain derived from biological motion. *Nat Neurosci*. 9: 738-9.
- Womelsdorf T, Anton-Erxleben K, Pieper F, Treue S. (2006) Dynamic shifts of visual receptive fields in cortical area MT by spatial attention. *Nat Neurosci*.9: 1156-60.
- Loffler G, Yourganov G, Wilkinson F, Wilson HR. (2005) fMRI evidence for the neural representation of faces. *Nat Neurosci*. 8: 1386-90
- Khan AZ, Pisella L, Vighetto A, Cotton F, Luauté J, Boisson D, Salemme R, Crawford JD, Rossetti Y. (2005) Optic ataxia errors depend on remapped, not viewed, target location. *Nat Neurosci*. 8: 418-20.
- Wunderlich K, Schneider KA, Kastner S. (2005) Neural correlates of binocular rivalry in the human lateral geniculate nucleus. *Nat Neurosci*. 8: 1595-602.
- Klier EM, Wang H, Crawford JD. (2001) The superior colliculus encodes gaze commands in retinal coordinates. *Nat Neurosci*. 4: 627-32.
- Wilson HR, Krupa B, Wilkinson F. (2000) Dynamics of perceptual oscillations in form vision. *Nat Neurosci*. 3: 170-6.

PLoS Biology (impact factor 12.8)



- Kaping, D., Vinck, M., Hutchison, R.M., Everling, S. & Womelsdorf, T. (2011) Specific contributions of ventromedial, anterior cingulate and lateral prefrontal cortex for attentional selection and stimulus valuation. *PLoS Biology*. 9(12): e1001224.

CURRENT BIOLOGY (impact factor 11.4)

- Dash S, Yan X, Wang H, Crawford JD (2015) Continuous updating of visuospatial memory in superior colliculus during slow eye movements. *Curr Biol*. 25 (3), 267-274
- Womelsdorf T., Ardid S., Everling S., Valiante T.A. (2014) Burst Firing Synchronizes Prefrontal and Anterior Cingulate Cortex during Attentional Control. *Curr Biol*. 24 (22), 2613–2621.



3. Tsotsos JK. (2014) It's all about the constraints. *Curr Biol.* 4(18):R854-8.
4. Wilson HR. (2010) Binocular rivalry: neurons unwire when they can't simultaneously fire. *Curr Biol.* 20: R715-7.
5. Huddleston WE, Hoffman KL. (2008) Social cognition: LIP activity follows the leader. *Curr Biol.* 18: R344-5.
6. Hoffman KL, Gothard KM, Schmid MC, Logothetis NK. (2007) Facial-expression and gaze-selective responses in the monkey amygdala. *Curr Biol.* 17: 766-72.
7. Gold JM, Murray RF, Bennett PJ, Sekuler AB. (2000) Deriving behavioural receptive fields for visually completed contours. *Curr Biol.* 10: 663-6.
8. Gray R, Regan D. (2000) Simulated self-motion alters perceived time to collision. *Curr Biol.* 10: 587-90.
9. Wilkinson F, James TW, Wilson HR, Gati JS, Menon RS, Goodale MA. (2000) An fMRI study of the selective activation of human extrastriate form vision areas by radial and concentric gratings. *Curr Biol.* 10: 1455-8.

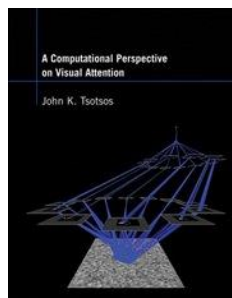
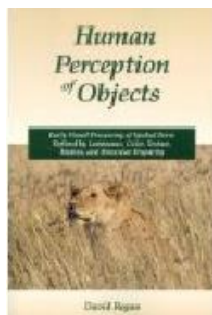
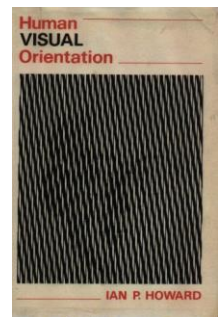
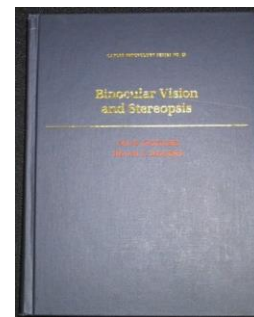
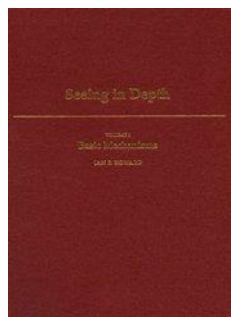
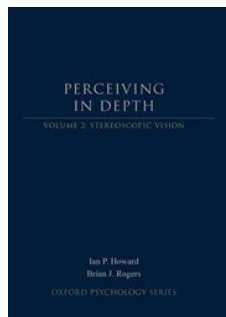
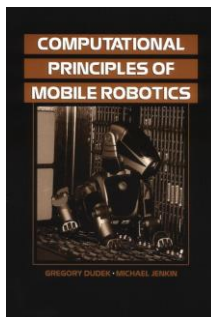
Proc Proc Natl Acad Sci (impact factor 9.8)



1. Pritchett, L. M., & Murray, R. F. (2015) Classification images reveal decision variables and strategies in forced choice tasks. *Proceedings of the National Academy of Sciences of the U.S.A.*, 112(23), 7321-7326
2. Voloh B, Valiante TA, Everling S, Womelsdorf T (2015) Theta gamma coordination between anterior cingulate and prefrontal cortex indexes correct attention shifts. *PNAS, Proceedings National Academy of Science, USA* 112:8457-8462
3. Turesson HK, Logothetis NK, Hoffman KL (2012) Category-selective phase coding in the superior temporal sulcus. *Proc Natl Acad Sci U S A.* 109(47):19438-43
4. Womelsdorf T, Lima B, Vinck M, Oostenveld R, Singer W, Neuenschwander S, Fries P. (2012). Orientation selectivity and noise correlation in awake monkey area V1 are modulated by the gamma cycle. *Proceedings of the National Academy of Sciences of the United States of America* 109:4302-4307.
5. Morgenstern Y, Murray RF, Harris LR. (2011) The human visual system's assumption that light comes from above is weak. *Proc Natl Acad Sci U S A.* 108: 12551-3
6. Womelsdorf, T., Johnston, K., Vinck, M. & Everling, S. (2010) Theta activity in anterior cingulate cortex predicts task-rules and their adjustments following errors. *Proc Natl Acad Sci U S A.* 107: 5248-53.
7. Fallah M, Stoner GR, Reynolds JH. (2007) Stimulus-specific competitive selection in macaque extrastriate visual area V4. *Proc Natl Acad Sci U S A.* 104: 4165-9.
8. Hopf, J.-M., Boehler C.N., Luck S.J., Tsotsos, J.K., Heinze, H.-J., Schoenfeld M.A., (2006) Direct neurophysiological evidence for spatial suppression surrounding the focus of attention in vision, *Proc Natl Acad Sci U S A.* 103: 1053-8.
9. Wilson HR.(2003) Computational evidence for a rivalry hierarchy in vision. *Proc Natl Acad Sci U S A.* 100: 14499-503.
10. Moore, T., and Fallah, M. (2001) Control of eye movements and spatial attention. *Proc Natl Acad Sci U S A.* 98: 1273-6.

BOOKS by CVR Members

- Dudek G, Jenkin M. (2000) Computational Principles of Mobile Robotics. Cambridge, CUP
- Howard IP (1982) Human Visual Orientation. John Wiley and Sons
- Howard IP, Rogers B. (1995) Binocular Vision and Stereopsis. Oxford, OUP
- Howard IP, Rogers B. (2002) Seeing in depth (2 vols). Toronto. I. Porteus.
- Howard IP, Rogers B. (2012) Perceiving in depth (3 vols). Oxford, OUP
- Howard IP, Templeton WB. (1966) Human Spatial Orientation. John Wiley & sons
- Regan D (1972). Evoked Potentials in Psychology, Sensory Physiology and Clinical Medicine. London: Chapman and Hall; New York: Wiley
- Regan D (1989). Human Brain Electrophysiology: Evoked Potentials and Evoked Magnetic Fields in Science and Medicine. New York: Elsevier
- Regan DR (2000) Human Perception of Objects: Early Visual Processing of Spatial Form Defined by Luminance, Color, Texture, Motion, and Binocular Disparity. Sunderland, MA Sinauer.
- Tsotsos J.K. (2011) A computational perspective on visual attention. Cambridge, MIT press.
- Wilson HR (1999) Spikes, Decisions and Actions: the dynamical foundation of neuroscience. New York, OUP.



Awards and Distinctions

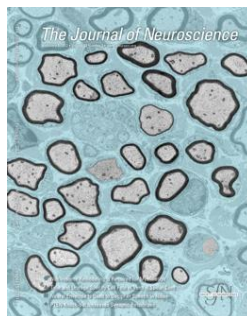
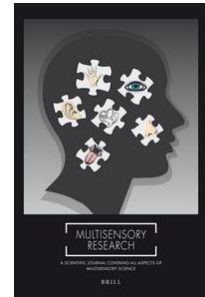
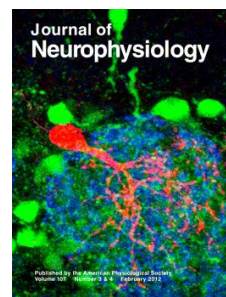
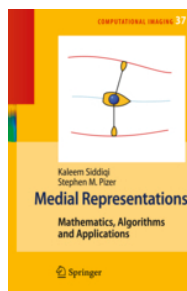
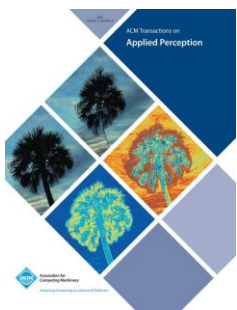
Alfred P. Sloan Fellow	Crawford (1996-1998)
Alfred P. Sloan Fellow	Henriques (2009-11)
Alfred P. Sloan Fellow	Hoffman
Bickell Foundation Award	Fallah
CIAR Young Explorer Award	Crawford (2002)
Canadian Image Processing and Pattern Recognition Society Award for Research Excellence and Service	Jenkin (2005)
Canadian Image Processing and Pattern Recognition Society Award for Research Excellence and Service	Tsotsos (2006)
Canadian Research Chair (CRC) in Visuomotor Neuroscience	Crawford (2001-2014)
Canadian Research Chair (CRC) in Computational Vision	Tsotsos (2003-2017)
CIHR New Investigator Award	Womelsdorf (2012)
Distinguished Research Professor (York)	Ono
Distinguished Research Professor (York)	Regan
Distinguished Research Professor (York)	Steinbach
Distinguished Research Professor (York)	Tsotsos (2008 -)
Distinguished Research Professor (York)	Howard
Foreign Member, Royal Netherlands Academy of Science (Medicine)	Regan (1999)
Fellow, Association for Research in Vision and Ophthalmology	Steinbach (2010)
Fellow of the Royal Society of Canada	Regan (1989)
Fellow of the Royal Society of Canada	Tsotsos (2010)
Hebb Award	Regan (2003)
Helmholtz Award (International Neural Network Society)	Wilson
Japan Society for the Promotion of Science Fellowship	Jenkin (2012)
Killam Fellowship	Regan (1991-2)
Killam Fellowship	Ono
Killam Research Professor	Regan (1978-83)
Kupfer Award, Association for Research in Vision and Ophthalmology	Steinbach (2009)
Member of the Order of Canada	Regan (2001)
NSERC 25 Year Scholar Award	Steinbach (2004)
NSERC 25 Year Scholar Award	Wilkinson
NSERC Award of Excellence	Regan (2000)
NSERC Women's Faculty Award	Wilcox
NSERC/CAE Industrial Research Chair in Vision in Aviation	Regan
Ontario Ministry of Research Innovation Early Researcher Award	Henriques (2006-11)

Ontario Ministry of Research Innovation Early Researcher Award	Hoffman (??)
Ontario Ministry of Economic Development and Innovation Early Researcher Award	Womelsdorf (2012)
ORDCF Professorship in Biological & Computational Vision	Wilson
Petro-Canada Young Investigators Award	Henriques (2007-10)
Polanyi Prize in Physiology/Medicine	Crawford (1995)
Polanyi Prize in Physiology/Medicine	Henriques (2005)
Premiers Research Excellence Award	Hornsey (2000)
Premiers Research Excellence Award	Crawford (2000)
Premiers Research Excellence Award	Elder (2003)
Prentice Medal, American Academy of Optometry	Regan (1990)
1st President's Research Excellence Award, York University,	Tsotsos (2009)
Proctor Medal, Association for Research in Vision and Ophthalmology	Regan (2001)
Queen Elizabeth II Gold Medal	Regan (2002)
Queen Elizabeth II Diamond Jubilee Medal	Regan (2012)
Sir William Dawson medal, Royal Society of Canada.	Regan (1997)
Spinoza Chair, Faculty of Medicine, University of Amsterdam	Regan (1999)
Staeacie Prize	Crawford (2004)
Young Investigator Award, CIPPRS	Elder (2001)

Editorial board membership

ACM Transactions on Applied Perception
 Binocular Vision
 Canadian Journal of Ophthalmology
 Clinical Vision Sciences
 Computational Intelligence (Associate Editor)
 Computational Imaging and Vision
 Computer Vision and Image Understanding (Area Editor)
 Electroencephalography & Clinical Neurophysiology
 IET Computer Vision
 Image and Vision Computing (North American Editor)
 Image and Vision Computing (Advisory Editor)
 Image and Vision Computing
 Journal of Graphics Tools
 Journal of Neurophysiology
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 Journal of WSCG
 Multisensory Research (editor in chief)
 Ophthalmic & Physiological Optics
 Perception & Psychophysics
 Seeing and Perceiving: a Journal of Multisensory Science (editor in chief)
 Seeing and Perceiving: a Journal of Multisensory Science
 Spatial Vision
 Vision Research
 Vision Research

Elder (2003 -)
 Steinbach (??)
 Steinbach (??)
 Regan (1986-2003)
 Tsotsos (1986-2005)
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 Elder (2007 -)
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 Jenkin (??)
 Stuerzlinger (??)
 Crawford (2005 -)
 Crawford (2012 -)
 Elder (2008 -)
 Murray (2015 -)
 Stuerzlinger (??)
 Harris (2013-)
 Regan (1999-)
 Wilcox (??)
 Harris (2011-2012)
 Regan (2009 -2012)
 Regan (1998 - 2009)
 Wilson (2002-2011)
 Regan (1998 -2003)



Patents held by CVR members

1. J. Elder U.S. Patent 7,130,490, Attentive panoramic visual sensor, issued October 31, 2006. Canadian Patent application #2,386,347, Attentive panoramic sensing for visual telepresence, filed May, 2002.
2. W. Stuerzlinger, Collaborative Pointing Devices, US patent 7,193,608, 2007, Canadian Patent CA 2429880.
3. L. Whitehead, G. Ward, W. Stuerzlinger, H. Seetzen, High dynamic range display devices, US patents US6891672, US7106505, US7172297, US7413307, US7413309, US7403332, China patent ZL02805551.9, Hong Kong patent HK1069212.
4. L. Whitehead, G. Ward, W. Stuerzlinger, H. Seetzen, HDR Displays with Overlapping Dual Modulation, US patent US7419267.
5. L. Whitehead, G. Ward, W. Stuerzlinger, H. Seetzen, HDR Displays Having Location Specific Modulation, US patent US7377652.
6. L. Whitehead, G. Ward, W. Stuerzlinger, H. Seetzen, Calibration of Displays Having Spatially-Variable Backlight, US patent US7370979.
7. I.P. Howard United States Patent no. 5,848,899 Method and device for simulating weightlessness Issued: December 15, 1998 Serial no. 08/852,601
8. M. Jenkin US Patent #7,427,220 (details unknown)
9. Ye, Y., Tsotsos, J.K. et al. Automatically Determining the Awareness Settings among people in Distributed Working Environment, US Patent #7,028,07, April 11, 2006.
10. Jenkin, M.R.M., Tsotsos, J.K., Large-Scale, Touch-Sensitive Video Displays, US Patent #6,377,228, April 23, 2002.
11. Jenkin, M.R.M., Tsotsos, J.K., Large-Scale, Touch-Sensitive Video Displays, US Patent #6,118,433, Sept. 12, 2000.
12. Down, B., Milios, E., Jenkin, M., Jasiobedzki, P., Campbell, T., Tsotsos, J., Imaging and Ranging Apparatus and Aiming Method, Canadian Patent Application # 2,105,501, 1995.
13. Method and apparatus for providing a robust object finder (Wildes, R and T. Camus). U.S. Patent #7,599,524, 2009.
14. Method and apparatus for performing geo-spatial registration of imagery (R. Wildes, K. Hanna, D. Hirvonen, S. Hsu, R. Kumar, W. Lehman, B. Matei and W. Zhao). U. S. Patent #6,597,818, 2003.
15. Method and apparatus for qualitative spatiotemporal data processing (R. Wildes and J.Bergen). U. S. Patent #6,535,620, 2003.
16. Automated, non-invasive iris recognition system and method II (R. Wildes, J. Asmuth, G. Green, S. Hsu, R. Kolczynski, J. Matey and S. McBride). U. S. Patent #5,751,836, 1998.
17. Automated, non-invasive iris recognition system and method (R. Wildes, J. Asmuth, G. Green, S. Hsu, R. Kolczynski, J. Matey and S. McBride). U.S. Patent #5,572,596, 1996.
18. U.S. Patent No. 4,384,768; Canadian Patent No. 1,214,344 for "Method and Apparatus for Manipulating the Contrast in Sine Wave Gratings and Other Visual Patterns" (M. Steinbach and Oscar Guzman)