CURRICULUM VITAE - CORNEIL, Brian D., Ph.D.

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POSITIONS:

Professor,
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EDUCATION:

B.Sc.H. Life Sciences, Queen's University, 1990-1994
Ph.D., Physiology, Queen's University, 1994-2001

AWARDS:

2022	Schulich School of Medicine & Dentistry Excellence in Education Award (Postgraduate/Graduate)
2017	Faculty Scholar, Western University
2016-17	University Student Council Teaching Honour Roll Award of Excellence for teaching in Medicine.
2014-15	University Student Council Teaching Honour Roll Award of Excellence for teaching in Neuroscience 2000.
2008	Schulich School of Medicine & Dentistry Dean's Award of Excellence – Junior Faculty
2007	Schulich School of Medicine & Dentistry Dean's Award of Excellence – Team Award
2005	New Investigator Award, Canadian Institutes of Health Research
2002	Society for Neuroscience Donald B. Lindsley award for most outstanding PhD in Behavioural Neuroscience
	Post-doc conference travel award, Neural Control of Movement
2001	Governor General's Gold Medal for best PhD thesis, Queen's University
	Human Frontier Science Program Long-term Fellowship
2000	Abrahams Prize in Physiology for best PhD thesis
	Canadian Institutes of Health Research Postdoctoral Fellowship

1999	Field travel award, Queen's University, for research in Nijmegen, The Netherlands
1998	Medical Research Council Doctoral Award Ontario Graduate Scholarship (declined)
1997-1995	Ontario Graduate Scholarship (awarded 3 times)

POSITIONS HELD:

2018-2024	Director, Neuroscience Graduate Program
2016	Professor, Depts of Physiology & Pharmacology and Psychology, University of Western Ontario, London, Canada
2011-2012	Visiting professor, Donders Centre for Cognition, Nijmegen NL
May 2011	Scientist, Robarts Research Institute
2009-2016	Associate Professor, Depts of Physiology & Pharmacology and Psychology, University of Western Ontario, London, Canada
2003-2009	Assistant Professor, Depts of Physiology & Pharmacology and Psychology, University of Western Ontario, London, Canada
2001-2003	Post-doctoral research, California Institute of Technology, Pasadena, California, USA. Supervisor: Dr. R. A. Andersen

PROFESSIONAL AFFILIATIONS: Canadian Association for Neuroscience, Canadian Physiological Society, Society for Neuroscience, Society for the Neural Control of Movement, The American Physiological Society, F1000 Prime (Motor Systems)

RESEARCH INTERESTS: Neural control of movement, Neurophysiology, Gaze shifts, Eye-head coordination, Visually-guided reaching, Multi-sensory integration, Kinesthesia, Neural prosthetics

FUNDING (as PI unless otherwise noted):

2025-2028 COMPERE Network grant *COMPERE and contrast: the neural control of dorsal neck muscles in new and old world primates*. $297,600 for 3 years).

2024-2027 Australian Research Council (P.I. Tim Carrol; 4 other co-PIs) *Subcortical control of human reaching?* $523,500 AUD for 3 years

2023-2028 CIHR Operating Grant *Temporal interference stimulation in the awake brain: Spatiotemporal resolution and interactions with endogenous activity* $856,800 for 5 years.

2022-2027 CIHR Operating Grant *A subcortical circuit for coordinating express reaches* $857,435 for 5 years.

2021-2026 NSERC Discovery Grant *Assessing the contribution of a subcortical circuit for express visuomotor responses.* $200,000 for 5 yrs

2021-2022 NSERC Research Tools and Instruments Grant *Neurophysiological equipment for network-level analyses in sensorimotor neuroscience.* $115,207 for 1 year.

2020-2021 Western BrainsCAN Accelerator Stimulus Grant *Temporal interference stimulation in the marmoset* $95,340 for 1 year.

2020-2021 Western Strategic Support for CIHR Success Accelerator grant *A marmoset-based test-bed for brain stimulation* $50,000 for 1 year.

2020-2024 Radboud University Medical Centre, Junior Researcher Position (PI: Vivian Weerdesteyn) *Watch your step! Mechanisms of defective visuomotor control in Parkinson's Disease* 240,000E for 4 years to fund Dutch PhD student.

2019-2021 Schulich School of Medicine and Dentistry Collaborative Research Seed Grant *The role of dopamine in the contextual control of the fast visuomotor network in health and in Parkinson's Disease* $47,000 for 2 years.

2017-2018 Western BrainsCAN Accelerator Stimulus Grant *Magneto-vestibular stimulation (MVS): effects on behaviour and resting state networks* $63,895 for 1 year.

2017-2020 Australian Research Council (P.I. Tim Carrol; 4 other co-PIs) *A common sub-cortical system for human eye and limb control?* $318,500 for 3 years

2017-2022 Canadian Foundation for Innovation (PI: Mel Goodale) *New Horizons in Human Cognitive Neuroscience Research at the Brain and Mind Institute* $3,302,294

2016-2021 NSERC Discovery Grant *Sensory and integrative properties of the fast visuomotor system.* $195,000 for 5 yrs

2015-2021 CIHR Operating Grant *Overt responses during covert orienting: novel biomarkers for the oculomotor system in health and disease.* $887,257 for 6 years (1 additional year funding provided due to COVID crisis)

2015-2016 NSERC Research Tools and Instruments Grant *A portable system for integrated measurement of human actions.* $139,665 for 1 year.

2012-2017 CIHR Operating Grant *Behavioural and neurophysiological effects of transcranial magnetic stimulation in the primate oculomotor system.* $754,470 for 5 years

2012-2013 CIHR Operating Grant *Behavioural and neurophysiological effects of transcranial magnetic stimulation in the primate oculomotor system.* $100,000 for 1 year.

2011-2016 NSERC Discovery Grant *Indexing covert activity within the oculomotor system via recordings of neck muscle activity.* $200,000 for 5 yrs

2010-2013 Infrastrucutre operating fund *Laboratory for multidisciplinary measurements of human performance.* $37,515 for 3 yrs

2009-2014 CIHR Operating Grant *Neural mechanisms for contextual control of Movement* $818,395 for 5 yrs

2009-2015 NSERC Create Grant (P.I. Mel Goodale, 10 other co-PIs) *Computational Approaches to Sensorimotor Transformations for the control of Action* $1.65M for 6 yrs

2008-2009 CIHR Operating Grant *Neural mechanisms for contextual control of Movement* $50,000 for 6 months

2005-2008 Human Frontier Science Program Career Development Award *Committing to decisions in the Oculomotor System.* $180,000 US for 3 yrs

2005-2010 CFI & Ontario Innovation Fund New Opportunities Fund *Laboratory for Multidisciplinary Measurements of Human Performance*. $312,627 for 5 years

2005-2010 NSERC Discovery Grant *Properties of Human Eye-head Gaze Shifts in Complex Oculomotor Tasks.* $100,000 for 5 years

2005-2010 Ontario Ministry of Research and Innovation Early Researcher Award, $150,000 for 5 yrs

2004-2009 CIHR Group Grant (P.I. Mel Goodale) *Neural transformations for perception and action***.** $454,440/yr for 5 yrs

2003-2008 CIHR Operating Grant *Sensory and motor roles for neck muscles in coordinate transformations*. $437,710 for 5 years

REFEREED PAPERS:
(trainees are underlined; visting international collaborators double-underlined)

1. Mekhaiel, D.Y., Goodale, M.A., **Corneil, B.D.** (2024) Rapid integration of face detection and task set in visually guided reaching. *Eur J Neurosci* 60: 5328-5347
2. Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2023) Express visuomotor responses reflect knowledge of both target location and concious intent during reaches of different amplitudes. *J Neurosci* 18: 7041-7055
3. Billen, L.S., **Corneil, B.D.**, Weerdesteyn, V. (2023) Evidence for an intricate relationship between express visuomotor responses, postural control, and rapid step initiation in lower limbs. *Neuroscience* 531: 60-74
4. Cecala, A.L., Kozak, R.A., Pruszynski, J.A., **Corneil, B.D.** (2023) Done in 65 ms: Express visuomotor responses in upper limb muscles in rhesus macaques. *eNeuro* 10:8 doi: 10.1523/ENEURO.0078-23.2023
5. Selen, L.P.J., **Corneil, B.D.**, Medendorp, W.P. (2023) Single-trial dynamics of competing reach plans in the human motor periphery. *J Neurosci* 116: 977-985.

6. Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2022) Symbolic cues enhance express visuomotor responses in human arm muscles at the motor planning rather than the visuospatial processing stage. *J Neurophysiol* 128: 494-510
7. Kearsley, S.L., Cecala, A.L., Kozak, R.A., **Corneil, B.D.** (2022) Express arm responses appear bilaterally on upper-limb muscles in arm choice reaching task. *J Neurophysiol* 127: 969-983.
8. Lehmann, S.J. and **Corneil, B.D.** (2022) Completing the puzzle: why studies in non-human primates are needed to better understand the effects of non-invasvie brain stimulation. *Neurosci Biobehav Rev* 132: 1074-1085. **Recommended in Faculty Opinions (M. Nitsche and A. Salehinejad).*
9. Gordon, K.A., Baitz, J., Gnanasegaram, J.J., McKnight, C., **Corneil, B.D.,** Camp, A.J., Cushing, S.L. (2022) Response characteristics of cervical vestibular evoked myogenic potentials recorded over splenius capitis in a clinical setting. *Acta Otorrinolaringologica Espanola*. 73: 164-176.
10. Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2021) Trial-by-trial modulation of express visuomotor responses induced by symbolic or barely detectable cues. *J Neurophysiol*. 126: 1507-1523
11. Kozak, R.A. and **Corneil, B.D.** (2021) High contrast, moving targets in an emerging target paradigm promote fast visuomotor responses during visually guided reaching. *J Neurophysiology* 126: 68-81
12. Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2021) The influence of temporal predictability on express visuomotor responses. *J Neurophysiol* 125: 731-747.
13. Peel, T.R., Dash, S., Lomber, S.G., **Corneil, B.D.** (2021) Frontal eye field inactivation alters the readout of superior colliculus activity for saccade generation in a task-dependent manner. *J Comput Neurosci*. 49: 229-249.
14. Kozak, R.A., Cecala, A.L., **Corneil, B.D.** (2020) An emerging target paradigm to evoke fast visuomotor responses on human upper limb muscles *J Vis Exp* 162, doi.org/10.3791/61428.
15. Dash, S., Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2020) Impairment but not abolishment of express saccades after unilateral or bilateral inactivation of the frontal eye fields. *J Neurophysiol* 123: 1907-1919.
16. Kozak, R.A., Kreyenmeier, P., Gu, C., Johnston, K., **Corneil, B.D.** (2019) Stimulus-locked responses on human upper limb muscles and corrective reaches are preferentially evoked by low spatial frequencies. *eNeuro*. 6(5) doi: 10.1523/ENEURO.0301-19.2019
17. Ali, F.M., Westling, M., Zhao, L.H., **Corneil, B.D.,** Camp, A.J. (2019) Splenius capitis: sensitive target for the cVEMP in older and neurodegenerative patients. *Eur Arch Otorhinolaryngol*. 276: 2991-3003. doi: 10.1007/s00405-019-05582-7
18. Verbruggen, F., Aron, A.R., Band, G.P.H., Beste, C., Bissett, P.G., Brockett, A.T., Brown, J.W., Chamberlain, S.R., Chambers, C.D., Colonius, H., Colzato, L.S., **Corneil, B.D.**, Coxon, J.P., Eagle, D.M., Dupuis, A., Garavan, H., Greenhouse, I., Heathcote, A., Huster, R.J., Jahfari, S., Kenemans, J.L., Leunissen, I., Logan, G.D., Matzke, D., Morein-Zamir, S., Murthy, A., Li, C.R., Paré, M., Poldrack, R.A., Ridderinkhof, K.R., Robbins, T.W., Roesch, M.R., Rubia, K., Schachar, R.J., Schall, J.D., Stock, A.K., Swann, N.C., Thakkar, K.N., van der Molen, M.W., Vermeylen, L., Vink, M., Wessel, J.R., Whelan, R., Zandbelt, B.B., Boehler, C.N. (2019) Capturing the ability to inhibit actions and impulsive behaviors: A consensus guide to the stop-signal paradigm. *Elife* 8, e46323, https://doi.org/10.7554/eLeife.46323.

19. Sedov, A., Usova, S., Semenova, U., Gamaleya, A., Tomisky, A., Crawford, J.D., **Corneil, B.D.**, Jinnah, H., Shaikh, A.G. (2019) The role of pallidum in the neural integrator model of dystonia. *Neurobiol Dis*. 125: 45-54. **Recommended by Faculty of 1000 (A. Berardelli and D. Belvisi.*

20. Gu, C., Pruszynski, J.A., Gribble, P.L. **Corneil, B.D.** (2019) A rapid visuomotor response on the human upper limb is selectively influenced by implicit, but not explicit, motor learning. *J Neurophysiol.* 121: 85-95.

21. **Corneil, B.D.**, and Camp, A.J. (2018) Animal models of vestibular evoked myogenic potentials: The past, present, and future. *Front Neurol.* 9:489. https://doi.org/10.3389/fneur.2018.00489.

22. Atsma, J., Maij, F., Gu, C., Medendorp, W.P., **Corneil, B.D.** (2018) Active braking of whole-arm reaching movements provides single-trial neuromuscular measures of movement cancellation. *J Neurosci*. 38: 4367-4382.

23. *Dash, S., Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2018) Frontal eye field inactivation reduces saccade preparation in the superior colliculus, but does not alter how preparatory activity relates to saccades of a given latency. *eNeuro*. 5(2) DOI: https://doi.org/10.1523/ENEURO.0024-18.2018. **Recommended by Faculty of 1000 (A Moschovakis)*.

24. *Gu., C., Pruszynski, J.A., Gribble, P.L., **Corneil, B.D.** (2018) Done in 100 ms: path-dependent visuomotor transformations in the human upper limb. *J Neurophysiol.* 119: 1319-1328. **Highlighted on J Neurophysiol's Twitter feed*

25. *Peel, T.R., Dash, S., Lomber, S.G., **Corneil, B.D.** (2017) Frontal eye field inactivation diminishes superior colliculus activity, but delayed saccadic accumulation governs reaction time increases. *J Neurosci* 37: 11715-11730. **Featured in J Neurosci's Journal Club commentary; Recommended by Faculty of 1000 (R. Shadmehr)*

26. Camp, A.J., Gu, C., Cushing, S.L., Gordon, K.A., **Corneil, B.D.** (2017) Splenius capitis is a reliable target for measuring cervical vestibular evoked myogenic potenitals in adults. *Eur J Neurosci*. 45: 1212-1223.

27. Peel, T.R., Hafed, Z.M., Dash, S., Lomber, S.G., **Corneil B.D.** (2016) A causal role for the cortical frontal eye fields in microsaccade generation. *PLOS Biol* 14(8): e1002531.

28. *Gu, C., Wood, D.K., Gribble, P.L., **Corneil, B.D.** (2016) A trial-by-trial window into sensorimotor transformations in the human motor periphery. *J Neurosci* 36: 8273-8282. **Recommended by Faculty of 1000 (R. Shadmehr)*.

29. Rincon-Gonzalez, L., Selen, L.P.J., Halfwerk, K., Koppen, M., **Corneil, B.D.**, Medendorp, W.P. (2016) Decisions in motion: Vestibular contributions to saccadic target selection. *J Neurophysiol* 116: 977-985.

30. Lehmann, S.J. and **Corneil, B.D.** (2016) Transient pupil dilation after sub-saccadic microstimulation of primate Frontal Eye Fields. *J Neurosci* 36: 3765-3776.

31. Walton, D.M., Elliott, J., Lee, J., Loh, E., MacDermid, J., Schabrun, S., Siqueira, W., **Corneil, B.D.,** Birmingham, T., Brown, A., Cooper, L., Dickey, J.P., Dixon, J., Frasher, D., Gati, J, Gloor, G., Good, G., Holdsworth, D., Lanius, R., McLean, S.A., Millard, W., Miller, J., Sadi, J., Seguin, C., Seminowicz, D.A., Shoemaker, K., Siegmund, G., Van Uum, S., Vertseegh, T., Wideman, T.H. (2016) Research priorities in the field of post-traumatic pain and disability: Results of an interdisciplinary consensus-gathering workshop. *Pain Res Manag* 1859434.

32. Goonetilleke, S.C., Katz, L., Wood, D.K., Gu, C., Huk, A.C., **Corneil, B.D.** (2015) Cross-

species comparison of anticipatory and stimulus-driven neck muscle activity well before saccadic gaze shifts in humans and non-human primates. *J Neurophys* 114: 902-913.

33. Wood, D.K., Gu, C., **Corneil, B.D.**, Gribble, P.L., Goodale, M.A. (2015) Transient visual responses reset the phase of low-frequency oscillations in the skeletomotor periphery. *Eur J Neurosci* 42: 1919-1932.

34. Gu, C. and **Corneil, B.D.** (2014) TMS of the prefrontal cortex in awake non-human primates evokes a polysynaptic neck muscle response that reflects oculomotor activity at the time of stimulation. *J Neurosci* 34: 14803-14815.

35. Corneil, B.D. and Munoz, D.P. (2014) Overt responses during covert orienting. *Neuron* 82: 1230-1243.

36. Atsma, J., Maij, F., **Corneil, B.D.**, Medendorp, P. (2014) No peri-saccadic mislocalization with abruptly cancelled saccades. *J Neurosci* 34: 5497-5504.

37. Zenon, A., **Corneil, B.D.,** Falali-Sadouk, N., Olivier, E. (2014) Counterproductive effect of saccadic suppression during attention shifts. *PLoS One* 9: e86633.

38. Chapman, B.B. and **Corneil, B.D.** (2014) Short-duration stimulation of the supplementary eye fields perturbs anti-saccades while potentiating contralateral head orienting. *Eur J Neurosci* 39: 295-307.

39. Peel, T.R., Johnston, K, Lomber, S.G., **Corneil, B.D.** (2014) Bilateral saccadic deficits following large and reversible inactivation of unilateral frontal eye field. *J Neurophysiol* 111: 415-433.

40. Corneil, B.D., Chen, J.C., Goonetilleke, S.C. (2013) Dynamic and opposing adjustment of movement cancellation and generation in an oculomotor countermanding task. *J Neurosci* 33: 9975-9984.

41. Farshadmanesh, F., Byrne, P., Yan, X., Wang, H., **Corneil, B.D.,** Crawford, J.D. (2012) Relationships between neck muscle electromyography and three dimensional head kinematics during centrally-induced torsional head movements. *J Neurophysiol* 108: 2867-2883.

42. Goonetilleke, S.C., Wong, J.P., **Corneil, B.D.** (2012) Validation of a within-trial measure of the oculomotor stop process. *J Neurophysiol* 108: 760-770.

43. Buchholz, V.N., Goonetilleke, S.C., Medendorp, W.P., **Corneil, B.D.** (2012) Greater benefits of multisensory integration during complex sensorimotor transformations. *J Neurophysiol* 107: 3135-3143.

44. Corneil, B.D., Goonetillek, S.C., Peel, T.R., Green, K.A., Welch, I. (2012) Ultrasound-guided insertion of intramuscular electrodes into suboccipital muscles in the non-human primate. *J. Electromyograph Kinesiol* 22: 553-559.

45. Chapman, B.B., Pace, M.A., Cushing, S.L., **Corneil, B.D.** (2012) Recruitment of a contralateral head turning synergy by stimulation of supplementary eye fields. *J. Neurophysiol.* 107: 1694-1710.

46. Farshadmanesh, F., Byrne, P., Keith, G.P., Wang, H., **Corneil, B.D.,** Crawford, J.D. (2012) Cross-validated models of the relationships between neck muscle electromyography and three-dimensional head kinematics during gaze behaviour. *J. Neurophysiol.*107: 573-590.

47. Goonetilleke, S.C., Gribble, P.L., Mirsattari, S.M., Doherty, T.J., **Corneil, B.D.** (2011) Neck muscle responses evoked by transcranial magnetic stimulation of the human frontal eye fields. *Eur J Neurosci* 33: 2155-2167.

48. Chapman, B.B., and **Corneil, B.D.** (2011) Neuromuscular recruitment related to stimulus presentation and task instruction during an anti-saccade task. *Eur. J. Neurosci.* 33: 349-360.

49. Goonetilleke, S.C., Doherty, T.J., **Corneil, B.D.** (2010) A within trial measure of the stop signal reaction time in a head-unrestrained oculomotor countermanding task. *J. Neurophysiol.* 104: 3677-3690.
50. Corneil, B.D., Elsley, J.K., Nagy, B., Cushing, S.L. (2010) Motor output evoked by sub-saccadic stimulation of primate frontal eye fields *Proc Natl Acad Sci* 107: 6070-6075.
51. Nagy, B. and **Corneil, B.D.** (2010) Representation of horizontal head-on-body position in the primate superior colliculus. *J. Neurophysiol.* 103: 858-874.
52. Brien, D.C., **Corneil, B.D.**, Fecteau, J.H., Bell, A.H., Munoz, D.P. (2009) The behavioural and neurophysiological modulation of microsaccades in monkeys. *J. Eye Movement Res.* 3(2):4, 1-12.
53. Stevenson, S.A., Elsley, J.K., **Corneil, B.D.** (2009) A "Gap effect" on stop signal reaction times in a human saccadic countermanding task. *J. Neurophysiol.* 101: 580-590.
54. Farshadmanesh, F., Chang, P., Wang, H., Yan, X., **Corneil, B.D.**, Crawford, J.D. (2008) Neck muscle synergies during stimulation and inactivation of the interstitial nucleus of Cajal (INC). *J. Neurophysiol.* 100: 1677-1685.
55. Rezvani, S. and **Corneil, B.D.** (2008) Recruitment of a head turning synergy by low-frequency activity in the primate superior colliculus. *J. Neurophysiol.* 100: 397-411.
56. Chapman, B.B., and **Corneil, B.D.** (2008) Properties of human eye-head gaze shifts in an Anti-gaze shift task. *Vis. Research* 48: 538-548.
57. Corneil, B.D., Munoz, D.P., Chapman, B.B., Admans, T., Cushing, S.L. (2008) Neuromuscular consequences of reflexive covert orienting. *Nat. Neurosci.* 11(1): 13-15.
58. Elsley, J.K., Nagy, B., Cushing, S.L., **Corneil, B.D.** (2007) Widespread presaccadic recruitment of neck muscles by stimulation of the primate frontal eye fields. *J Neurophysiol*. 98: 1333-1354.
59. Corneil, B.D., Munoz, D.P. Olivier, E. (2007) Priming of head premotor circuits during oculomotor preparation. *J. Neurophysiol*. 97: 701-714
60. Corneil, B.D. and Elsley J.K. (2005) Countermanding eye-head gaze shifts in humans: marching orders are delivered to the head first *J. Neurophysiol.* 94: 883-895.
61. Musallam, S., **Corneil, B.D.**, Greger, B., Scherberger, H., Andersen, R.A. (2004) Cognitive control signals for neural prosthetics. *Science* 305(5681): 258-262.
62. Corneil, B.D., Olivier, E., Munoz, D.P. (2004) Visual responses on neck muscles reveal selective gating that prevents express saccades. *Neuron* 42(5): 831-841.
63. Corneil, B.D., Andersen, R.A. (2004) Dorsal neck muscle vibration induces upward shifts in the endpoints of memory-guided saccades in monkeys. *J. Neurophysiol.* 92: 553-566.
64. Andersen, R.A., Burdick, J.W., Musallam, S., Scherberger, H., Pesaran, B., Meeker, D., **Corneil, B.D.**, Fineman, I., Nenadic, Z., Branchaud, E., Cham, J.G., Greger, B., Tai, Y.C., Mojarradi, M.M. (2004). Recording advances for neural prosthetics. *Conf. Proc. IEEE. Eng. Med. Biol. Soc.* 7: 5352-5355.
65. Bell, A.H., **Corneil, B.D.,** Munoz, D.P., Meredith, A.M. (2003) Engagement of visual fixation suppresses sensory responsiveness and multisensory integration in the primate superior colliculus. *Eur. J. Neurosci.* 18: 2867-2873.
66. Scherberger, H., Fineman, I., Musallam, S., Dubowitz, D.J., Bernheim, K.A., Pesaran, B., **Corneil, B.D.,** Gilliken, B., Andersen, R.A. (2003). Magnetic resonance image-guided implantation of chronic recording electrodes in the macaque intraparietal sulcus. *J. Neurosci. Meth* 130: 1-8.

67. Corneil, B.D., Olivier, E., Munoz, D.P. (2002) Neck muscle responses to stimulation of monkey superior colliculus. I. Topography and manipulation of stimulation parameters. *J. Neurophysiol*. 88:1980-1999.

68. Corneil, B.D., Olivier, E., Munoz, D.P. (2002) Neck muscle responses to stimulation of monkey superior colliculus. II. Gaze shift initiation and volitional head movements. *J. Neurophysiol*. 88: 2000-2018.

69. Corneil, B.D., Van Wanrooij, M., Munoz, D.P., Van Opstal, A.J. (2002) Auditory-visual interactions subserving goal-directed saccades in a complex scene. *J. Neurophysiol.* 88: 438-454.

70. Richmond, F.J.R., Singh, K., **Corneil, B.D.** (2001) Neck muscles in the rhesus monkey. I. Muscle morphometry and histochemistry. *J. Neurophysiol.* 86: 1717-1728.

71. Corneil, B.D., Olivier, E., Richmond, F.J.R., Loeb, G.E., Munoz, D.P. (2001) Neck muscles in the rhesus monkey. II. Electromyographic patterns of activation underlying postures and movements. *J. Neurophysiol.* 86: 1729-1749.

72. Bell, A.H., **Corneil, B.D.**, Meredith, M.A., Munoz, D.P. (2001) The influence of stimulus properties on multisensory processing in the awake primate superior colliculus. *Can. J. Exp. Psychol.* 55:123-132.

73. Richmond, F.J.R., **Corneil, B.D.**, Singh, K. (1999). Animal models of motor systems: Cautionary tales from studies of head movement. *Prog. Brain Res.* Vol. 123: 411-416

74. Corneil, B.D., Hing, C.A., Bautista, D.V., Munoz, D.P. (1999). Human eye-head gaze shifts in a distractor task. I. Truncated gaze shifts. *J. Neurophysiol.* 82: 1390-1405.

75. Corneil, B.D., Munoz, D.P. (1999). Human eye-head gaze shifts in a distractor task. II. Reduced threshold for initiation of early head movements. *J. Neurophysiol.* 82: 1406-1421.

76. Richmond, F.J.R., Singh, K., **Corneil, B.D.** (1999). Marked non-uniformity of fiber-type composition in the primate suboccipital muscle obliquus capitis inferior. *Exp. Brain Res.* 125: 14-18.

77. Corneil, B.D. and Munoz, D.P. (1996) The influence of auditory and visual distractors on human orienting gaze shifts. *J. Neurosci.* 16: 8193-8207.

78. Goldring, J.E., Dorris, M.C., **Corneil, B.D.**, Ballantyne, P.A., Munoz, D.P. (1996) Combined eye-head gaze shifts to visual and auditory targets in humans. *Exp. Brain Res.* 111: 68-78.

79. Munoz, D.P. and **Corneil, B.D.** (1995) Evidence for interactions between target selection and visual fixation for saccade generation in humans. *Exp. Brain Res.* 103: 168-173.

MANUSCRIPTS SUBMITTED OR UNDER REVISION

1. Divakar, R., Loeb. G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. A subcortical origin for rapid, target-oriented corticospinal excitability changes during visually guided reaching. Preprint posted to *bioXriv*.

2. Divakar, R., Loeb. G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. A complex reach direction rule that delays rection time causes alternating excitation and inhibtion in express muscle responses and corticospinal excitability. Preprint posted to *bioXriv*.

3. Botzanowski, B., Acerbo, E., Lehmann, S.J., Kearsley, S.L., Steiner, M., Neufeld, E., Missey, F., Muller, L., Jirsa, V., **Corneil, B.D,** Williamson, A. Controlling focality and intensity of non-invasive deep brain stimulation using multipolar temporal interference in non-human primates and rodents. Preprint posted to *bioXriv.*

4. *Weerdesteyn, V., *Kearsley, S.L., Cecala, A.L., MacPherson, E.A., **Corneil, B.D.** Startling acoustic stimuli hasten choice reaching tasks by strengthening, but not changing the timing of, express visuomotor responses. Preprint posted to *bioXriv*. Revision requested at *J Physiol*
5. *Gilchrist, M., *Kozak, R.A., Prenger, M., Anello, M., Van Hedger K., **MacDonald, P.A., ****Corneil, B.D.** Parkinson's Disease affects the contextual control, but not expression of, a rapid visuomotor response that initiates visually-guided reaching: Evidence for multiple, interacting motor pathways and implications for motor symptoms in PD. Preprint posted to *bioXriv*.
6. Billen, L.S., Nonnekes, J., **Corneil, B.D.**, Weerdesteyn, V. Lower-limb express visuomotor responses are spared in Parkinson's Disease during step initiation from a stable posture. Prepint posted to *bioXriv.*

BOOK CHAPTERS

1 **Corneil, B.D.** (2011) Neuromuscular strategies for eye-head gaze shifts. Oxford Handbook on Eye Movements. Liversedge, S.P., Gilchrist, I.D., Everling, S. (eds.) Oxford University Press.

2 Musallam, S. and **Corneil, B.D.** (2010) Motor Neural Prosthetic Systems. Sage Encyclopedia of Perception. Goldstein, E.B. (ed.). Sage Publishers, Thousand Oaks, CA.

3 **Corneil, B.D.** and Musallam, S. (2008) Vestibulospinal system & Eye-head/neck movement. The New Encyclopedia of Neuroscience. Squire, L. (ed). Elsevier Ltd. Chpt 1350.

4 Richmond, F.J.R. and **Corneil, B.D.** (2001) Afferent mechanisms in the upper cervical spine. The Cranio-cervical syndrome: Mechanisms, assessment and treatment. Vernon, H. (ed.). Butterworth-Heinemann, Oxford. pp.14-30.

INVITED COMMENTARY

1 **Corneil, B.D.** (2004) Book review of *The Superior Colliculus: New Approaches for Studying Sensorimotor Integration*, Hall, W.C. and Moschovakis, A. eds; *Quarterly Reviews of Biology.* 79(4), 457.

INVITED PRESENTATIONS:

2024	Johns Hopkins, Host: Dr. David Zee
	University of British Columbia, Host: Dr. Doug Altshuler
2022	Arizona State University, Host: Dr. Claire Honeycutt
2019	University of Mississippi, Host: Dr. P. J. May
	Queen's University, Host: Dr. D.P. Munoz
2018	University of British Columbia, Host: Dr. Miriam Spering
	Speaker, Origins of Balance Deficits and Falls Cluster conference, UBC
2017	Monash University, Host: Dr. Kim Cornish
2015	Speaker, Plenary Symposium, Canadian Association for Neuroscience
	Speaker, Gordon Conference on Eye Movements
	Hospital for Sick Children, Host: Dr. Sharon Cushing
2014	Vanderbilt University, Host: Dr. J.D. Schall
2012	University of Michigan, Host: Dr. M. King
	University of Texas at Austin, Host: Dr. A. Huk
	Université Paris Descartes, Host: Dr. P.P. Vidal
	The University of Exeter, Host: Dr. F. Verbruggen

	University of Oxford, Host: Dr. A. Bell
	German Primate Centrum, Host: Dr. H. Scherberger
	University of Louvain, Belgium, Host: Dr. E. Olivier
	Radboud University Nijmegen. Host: Dr. D. Stegeman
	Umea University, Sweden. Host: Dr. A. Pruszynski
	Rotterdam University. Host: Dr. M. Frens
2011	University of Bourgogne. Host: Dr. F. Bonnetblanc
	University of Utrecht. Host: Dr. S.F.W. Neggers
	Robarts Research Institute
2010	Virginia Commonwealth University. Host: Dr. M.A. Meredith
	University of British Columbia. Host: Dr. J.S. Blouin
2009	Queen's University. Host: Dr. M.C. Dorris
2008	McGill University. Host: Dr. S. Musallam
	University of Wisconsin. Host: Dr. L. Populin
2004	University of Western Ontario: Departmental presentation
	York University, Host: Dr. J.D. Crawford
2003	York University, Host: Dr. J.D. Crawford
2002	University of Western Ontario. Host: Dr. J. Henry
2000	University of Western Ontario. Host: Dr. S. Everling
1999	Washington University School of Medicine. Host: Dr. L.H. Snyder
	California Institute of Technology. Host: Dr. R.A. Andersen
	University of California San Francisco. Host: Dr. S.G. Lisberger
	National Institutes of Health. Host: Dr. M. Paré
	National Insitutes of Physiological Sciences, Okazaki, Japan. Host: Dr. T. Isa
	University of Louvain, Brussels, Belgium. Host: Dr. E. Olivier
	Katholique University of Nijmegen, The Netherlands. Host: Dr. A.J. Van Opstal

ABSTRACTS AND/OR CONFERENCE PRESENTATIONS:

Corneil, B.D., Lehmann, S.J., Kearsley, S.L., Williamson, A., Muller, L.E. (2025) The oculomotor system of the non-human primate as a preclinical model for Temporal Interference Stimulation. *6th International Brain Stimulation Conference* (symposium, submitted).

Kearsley, S.L., **Corneil, B.D.,** Muller, L.E. (2025) In-silico simulations show that multi-polar temporal interference stimulation reduces the current intensities needed to evoke neural activity. *6th International Brain Stimulation Conference* (submitted)

Kearsley, S.L., Lehmann, S.J., Muller, L.E., **Corneil, B.D.,** (2025) Multi-polar temporal interference stimulation: comparing electric fields in-silico vs in-vivo in the rhesus macaque. *6th International Brain Stimulation Conference* (submitted)

Corneil, B.D. (2024) The oculomotor system of the non-human primate as a preclinical model for Temporal Interference Stimulation. *International meeting on temporal interference stimulation, Imperial College London* (platform).

Mekhaiel, D.Y., Goodale, M.A., **Corneil, B.D.** (2024) Reach adjustment and target selection begin within 80 ms. *Seeing and Acting Workshop*.

Kearsley, S.L., Lehmann, S.J., Muller, L.E., **Corneil, B.D.** (2024) Multipolar temporal interference stimulation in the rhesus macaque. *Primate Cognitive Neuroscience Summer School*.

Mekhaiel, D.Y., Goodale, M.A., **Corneil, B.D.** (2024) Express visuomotor responses induce short-latency online corrections. *Platform presentation at *CAPnet Satellite*; Poster at *Canadian Society for Brain, Behaviour and Cognitive Science*. *Won presentation award.

Gilchrist, MC., Kozak., R.A., Prenger, M., Anello, M., Van Hedger, K., MacDonald, P.A., **Corneil, B.D.** (2024) A differential influence of the pathophysiology of Parkinson's Disease on distinct phases of muscle recruitment during visually-guided reaching. *Society for the Neural control of Movement* (platform).

Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2024) Subcortical control of human reaching? *Society for the Neural control of Movement*.

Billen, L.S., Giesbers, I., **Corneil, B.D.**, Weerdesteyn, V. (2024) The cortical dynamics underlying modulation of express visuomotor responses and postural control during step initiation. *Society for the Neural control of Movement*.

Corneil, B.D. (2024) Responding when time is of the essence: a subcortical substrate for rapid visually-guided reaching. *Sensorimotor circuits for limb control; Okinawa Institute of Technology* (platform).

Corneil, B.D. (2023) A subcortical substrate for rapid visually-guided reaching. *The Dutch Society for Brain and Cognition Winter Conference* (platform).

Mekhaiel, D., Goodale, M.A., **Corneil, B.D.** (2023) The Express Visuomotor Response facilitates arm movement in response to faces within 80 ms. *Gordon Research Seminar/Conference on Eye Movements*

Gilchrist, MC., Kozak., R.A., Prenger, M., **Corneil, B.D.,** MacDonald, P.A. (2023) Spared express visuomotor responses in Parkinson's Disease. *Gordon Research Seminar/Conference on Eye Movements*

Billen, L.S., **Corneil, B.D.**, Weerdesteyn, V. (2023) The relationship between express visuomotor responses and postural control in patients with Parkinson's Disease. Platform presentation at *International Society for Posture and Gait Research*

Billen, L.S., Gilchrist, M., Weerdesteyn. V., **Corneil, B.D.** (2023) Does postural instability inhibit rapid visually-guided reaching movements? *International Society for Posture and Gait Research*

Asadian, A., Cecala, A.L., Nuitjen, P.L., Lehmann, S.J., Pruszynski, J.A., **Corneil, B.D.** (2023). Responding when time is of the essence: An analysis of signal timing in the macaque superior colliculus during reflexive visually-guided reaching. *Society for the Neural Control of Movement*

Kearsley S,L., Lehmann, S.J., Williamson, A., Neufeld, E., Steinner, M., Acerbo, E., Botzanowski, B., Muller, L.E, **Corneil, B.D.** (2023) Establishing the non-human primate as an animal model for temporal interference stimulation. Simulations and neurophysiological recordings from a deep brain structure in the macaque. *Society for the Neural Control of Movement*

Mekhaiel, D., Goodale, M.A., **Corneil, B.D.** (2023) The Express Visuomotor Response facilitates arm movement in response to faces within 80 ms. *Society for the Neural Control of Movement*

Kearsley S,L., Lehmann, S.J., Williamson, A., Neufeld, E., Steinner, M., Muller, L., **Corneil, B.D.** (2023) Establishing the non-human primate as an animal model for temporal interference stimulation. I. Simulations of electric fields. *5th International Brain Stimulation Conference*

Lehmann, S., Kearsley S,L., Acerbo, E., Botzanowski, B., Muller, L., Williamson, A., **Corneil, B.D.** (2023) Establishing the non-human primate as an animal model for temporal interference stimulation. II. Application and neurophysiological recordings in a behaving preparion. *5th International Brain Stimulation Conference*

Kozak., R.A., Prenger, M., Gilchrist, M., Van Hedger, K., Anello, M., MacDonald, P.A., **Corneil, B.D.** (2022). Express reaching responses are preserved in Parkinson's Disease and insensitive to levodopa treatment. *Society for the Neural Control of Movement* (platform).

Kearsley, S.L., Cecala, A.L., Macpherson, E. **Corneil, B.D.**, Weerdesteyn, V. (2022) Startling acoustic stimuli hasten choice reaction times by strengthening express visuomotor responses without changing their timing. *Society for the Neural Control of Movement*

Billen, L.S., **Corneil, B.D.**, Weerdesteyn, V. (2022) Express visuomotor responses in hip abductor muscles: evidence for an intricate relationship between postural control and stepping. Platform presentation at *International Society for Posture and Gait Research*.

Kozak., R.A., Prenger, M., Gilchrist, M., Anello, M., Van Hedger, K., MacDonald, P.A., **Corneil, B.D.** (2022). Spared visually-guided reaching toward moving targets in Parkinson's Disease. *University of Rochester Center for Visual Sciences 32nd Annual Symposium: Active Vision*

Gilchrist, M., Kozak, R.A., Prenger, M., Van Hedger, K., Anello, M., MacDonald, P.A., **Corneil, B.D.** (2022) Dopaminergic modulation of express reaching responses in Parkinson's Disease. *Movement Disorders Society*

Mekhaiel, D., Goodale, M.A., **Corneil, B.D.** (2022) Express visuomotor response in upper limb can select targets within 90 ms of visual target onset. *Canadian Association for Neuroscience*.

Billen, L., **Corneil, B.D.**, Weerdesteyn, V. (2022) Express visuomotor responses in hip abductor muscles: Evidence for an intricate relationship between fast stepping and postural control. *Society for the Neural Control of Movement*.

Divakar, R., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2021) Initial corticospinal responses to visual target presentation during reaching reflect the target direction rather than the reach direction. *Society for Neuroscience*.

Boddy, A., Beamish, J., Loeb, G.E., **Corneil, B.D.**, Marinovic, W., Wallis, G., Carrol, T.J. (2021) Transient, broad field, visual input strongly modulates reactive saccade latency. *Society for the Neural Control of Movement (virtual).*

Kearsley, S.L., Cecala, A.L., Kozak, R.A., **Corneil, B.D.** (2021) Express visuomotor responses appear bilaterally on the upper-limb muscles regardless of hand-choice. *Society for the Neural Control of Movement (virtual).*

Contemori, S., Loeb, G.E., **Corneil, B.D.**, Wallis, G., Carroll, T.J. (2021) Motor preparation modulates express visuomotor responses in human upper limb muscles *Society for the Neural Control of Movement.*

Kearsley, S.L., Cecala, A.L., **Corneil, B.D.** (2020) Bilateral stimulus-locked responses in upper-limb muscles during visually-guided reaches. *Neuromatch 3.0* (platform)

Kozak, R.A., **Corneil, B.D.** (2020) Stimulus-locked responses on human upper limb muscles prefer low spatial frequency, high contrast, and fast moving targets. *Vision Sciences Society* (platform).

Corneil, B.D. (2020) Moving when time is of the essence: determining the substrates of fast visuomotor control. *Accepted as platform presentation at the Society for the Neural Control of Movement; cancelled due to COVID.*

Lehmann, S.J., Womelsdorf, T., **Corneil, B.D.** (2020) Effects of cTBS to prefrontal cortex in a primate model of non-invasive brain stimulation. *13th Primate Neurobiology Conference* (cancelled due to COVID)

Kozak, R.A., **Corneil, B.D.** (2019) Faster moving targets evoke larger and more prominent stimulus locked responses on human upper limb muscles. *Gordon Research Conference on Eye Movements*

Corneil, B.D. (2019) Responding when time is of the essence: determining the substrates of fast visuomotor control. *Eye meeting pre-meeting for the Soceity for the Neural Control of Movement*

Lehmann, S.J., Womelsdorf, T., **Corneil, B.D.** (2019) cTBS increases narrow-band gamma bursts and theta-band synchronization in the contralateral pre-frontal cortex in a primate model of rTMS. *Society for the Neural Control of Movement.*

Lehmann, S.J., Womelsdorf, T., **Corneil, B.D.** (2019) A novel signature for disinhibition in the contralateral PFC following cTBS in the primate. *3rd International Brain Stimulation Conference*

Kozak, R.A., **Corneil, B.D.** (2018) Faster moving targets evoke larger and more prominent stimulus locked responses on human upper limb muscles. *Society for Neuroscience*

Beamish, J., Loeb, G.E., **Corneil, B.D.,** Marinovic, W., Wallis, G., Carroll, T. (2018) Transient, broad field, visual input strongly modulates reactive saccade latency. *First International Motor Impairment Conference*, Sydney AU.

Corneil, B.D., Gu, C., Faubert, K., Butler, B., Cushing, S.L., Camp, A.C. (2018) Development of a non-human primate model for the cervical vestibular evoked myogenic potential. *30th Barany Society Meeting* (platform)

Westling, M., Ali, F.M., **Corneil, B.D.**, Camp, A.C. (2018) Splenius capitis: Target for the cVEMP in older and neurodegenerative patients. *30th Barany Society Meeting*

Kozak, R.A., Kreyenmeier, P., Gu, C., Johnston, K., **Corneil, B.D.** (2018) Stimulus-locked responses and corrective reaches are selective for low spatial frequency stimuli. *International Soceity for Electrophysiology and Kinesiology*

Corneil, B.D., Atsma, J., Maij, F., Gu, C., Medendorp, W.P. (2018) Active braking of whole-arm reaching movements provides single-trial neuromuscular measures of movement cancellation. Accepted at *International Soceity for Electrophysiology and Kinesiology* (platform)

Kreyenmeier, P., Kozak, R.A., Gu, C., Johnston, K., **Corneil, B.D.** (2018) Stimulus-locked responses and fast on-line reach corrections are preferentially evoked by low spatial frequency stimuli. *Society for the Neural Control of Movement*.

Gu, C., Pruszynski, J.A., Gribble, P.L., **Corneil, B.D.** (2018) Rapid visuomotor responses are selectively influenced by implicit motor learning. *Neural Control of Movement* (platform presentation given by Gu).

Selen, L.C., Gu, C., Medendorp, W.P., **Corneil, B.D.** (2018) Competition between reach targets within the fast visuomotor system. *TeaP: 60th Conference of Experimental Psychologists, Margburg Germany*.

Kozak, R.A., Gu, C., Johnston, K., **Corneil, B.D.** (2017) Stimulus-locked responses on human upper limb muscles are preferentially evoked by low spatial frequency stimuli. *Society for Neuroscience.*

Lehmann, S.J., and **Corneil, B.D.** (2017) Effects of repetitive TMS of primate PFC on neurophysiological activity in contralateral PFC. *Society for Neuroscience.*

Lehmann, S.J., and **Corneil, B.D.** (2017) Does rTMS disinhibit the contralesional cortex? A test within the primate oculomotor system. *Gordon Research Conference on Eye Movements*

Gu, C., Selen, L.P., Medendorp, W.P., **Corneil, B.D.** (2017) Spatio-temporal competition between visual stimuli within the fast visuomotor pathway *Gordon Research Confererence on Eye Movements*

Dash, S., Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2017) Contribution of the frontal eye fields to preparatory activity in the superior colliculus. *Gordon Research Conference on Eye Movements*

Kozak, R.A., Gu, C., Johnston, K., **Corneil, B.D.** (2017) Bigger, faster, and more prevalent: low spatial frequencies evoke larger and faster stimulus-locked responses on human upper limb muscles. *Gordon Research Conference on Eye Movements*

Dash, S., Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2017) How do frontal eye fields (FEF) and superior colliculus (iSC) work together to produce a saccade? *Canadian Association for Neuroscience*.

Kozak, R.A., Gu, C., Johnston, K., **Corneil, B.D.** (2017) Visual properties of a fast visuomotor system. *Satellite for the Canadian Association for Neuroscience.*

Corneil, B.D., Camp, A.J., Cushing, S.L., Gu, C. (2017) A non-human primate model for the cervical vestibular-evoked myogenic potential *David A. Robinson Symposium*.

Gu, C., Pruszynski, J.A., Gribble, P.L., **Corneil, B.D.** (2017) Sensorimotor properties of the recticulospinal contribution during human visually-guided reach movements *Neural Control of Movement*.

Sengupta, S., Selen, L., Medendorp, W.P., Gu, C., **Corneil, B.D.,**. Praamstra, P. (2017) High-density surface EMG recording of the stimulus-locked response. *Neural Control of Movement*.

Dash, S., Peel, T.R., and **Corneil, B.D.** (2016) Population coding in the superior colliculus may contribute to variability in saccadic reaction time. *Society for Neuroscience* 715.27.

Gu, C., Pruszynski, J.A., Gribble, P.L., and **Corneil, B.D.** (2016) Visual stimulus-locked responses in upper limb muscles are modulated by the upcoming reach trajectory. *Society for Neuroscience* 57.19.

Camp, A.J., Gu, C., Cushing S.L., Gordon, K., and **Corneil, B.D.** (2016) Splenius capitis offers a reliable target for measurement of the cVEMP in a simple standing posture. *29th Barany Society Meeting,*

Corneil, B.D. (2016). A role for the frontal eye fields (FEF) in non-saccadic forms of orienting *Neural control of movement* (Platform).

Gu, C., Wood, D.K., Pruszynski, J.A., Gribble, P.L., and **Corneil, B.D.** (2016) The sensorimotor properties of the fast visuomotor system. *Neural control of movement*

Lehmann, S.J., and **Corneil, B.D.** (2016) Effects of transcranial magnetic stimulation of FEF on neurophysiological activity in contralateral FEF. *Neural control of movement*.

Peel, T.R., Dash, S., Lomber, S.G., and **Corneil, B.D.** (2016) Mechanisms of saccade initiation within the superior colliculus: insights following frontal eye fields inactivation. *Neural control of movement*.

Gu, C., Pruszynski, J.A., Gribble, P.L., and **Corneil, B.D.** (2015) Adaptation of ultra-rapid visual responses on a human upper limb muscle during visuomotor rotation. *Society for Neuroscience* 795.21.

Lehmann, S.J. and **Corneil, B.D.** (2015) Transient pupil dilation after subsaccadic microstimulation of primate FEF. *Society for Neuroscience* 110.05 (Platform)

Corneil, B.D. (2015) The role of the frontal eye fields (FEF) in the expression of non-saccadic measures of oculomotor output. European Conference on Eye Movements (Platform).

Lehmann, S.J. and **Corneil, B.D.** (2015) Subsaccadic FEF microstimulation induces pupil dilation. *Canadian Association for Neuroscience*

Camp, A.J., Gu, C., Cushing S.L., Gordon, K., and **Corneil, B.D.** (2015) Splenius capitis is a reliable target for measurement of the cVEMP in a simple standing posture. *Gordon Research Conference on Eye Movements*

Dash, S., Lomber, S.G., and **Corneil, B.D.** (2015) Cryogenic inactivation of frontal eye fields (FEF) delays saccade initiation by attenuating motor preparation in the superior colliculus (SC). *Gordon Research Conference on Eye Movements*

Lehmann, S.J. and **Corneil, B.D.** (2015) Subsaccadic FEF microstimulation induces pupil dilation. *Gordon Research Conference on Eye Movements*

Gu, C., Park, D., Gribble, P.L. and **Corneil, B.D.** (2015) Ultra-rapid integration of proprioceptive information with the visual response on human limb muscles. *Gordon Research Conference on Eye Movements*

Dash, S., Lomber, S.G., and **Corneil, B.D.** (2014) Impairment, but not abolishment, of express saccade generation following large and reversible cryogenic inactivation of frontal eye fields (FEF). *Soc Neurosci Abstr* 438.07

Gu, C., Wood, D.K., Gribble, P.L., Doherty, T., Goodale, M.A., and **Corneil, B.D.** (2014) Visual responses on upper limb muscles during pro- and anti-reach movements implicate the superior colliculus. *Soc Neurosci Abstr* 437.12

Lehmann, S.J., **Corneil, B.D.** (2014) Subsaccadic microstimulation of the primate frontal eye fields induces pupil dilation. *Bernstein Conference*, W113.

Gu, C., Wood, D.K., Gribble, P.L., Doherty, T., Goodale, M.A., and **Corneil, B.D.** (2014) Visual responses on human upper limb muscles can be independent of the ensuing reach movement. *Neural Control of Movement*

Peel. T.R., Womelsdorf. T., Lomber, S.G., and **Corneil, B.D.** (2013) The functional contribution of the frontal eye fields to spiking activity and local field potentials in the intermediate superior colliculus. *Soc Neurosci Abstr* 362.03.

Gu, C., Stevens. T., Thielscher, A., Bell, A.H. and **Corneil, B.D.** (2013) Spatial and state-dependent effects of transcranial magnetic stimulation of the frontal eye fields in non-human primates. *Soc Neurosci Abstr* 365.06

Atsma J., Maij, F., **Corneil, B.D.**, and Medendorp, W.P. (2013) No evidence for peri-saccadic mislocalization on suddenly cancelled saccades. *European Conference on Visual Perception*

Atsma J., Maij, F., **Corneil, B.D.**, and Medendorp, W.P. (2013) No visual instability on suddenly cancelled saccades. *Gordon Research Conference on Eye Movements*

Gu, C. and **Corneil, B.D.** (2013) Developing an animal model for the effects of transcranial magnetic stimulation of the oculomotor system. *Gordon Research Conference on Eye Movements*

Peel. T.R., Womelsdorf. T., Lomber, S.G., and **Corneil, B.D.** (2013) The frontal eye fields contributes to spiking activity and modulates low-frequency oscillations in the intermediate superior colliculus. *Gordon Research Conference on Eye Movements*

Gu, C. and **Corneil, B.D.** (2013) Development of an animal model for the effects of Transcranial Magnetic Stimulation on the primate oculomotor system. *Canadian Association for Neuroscience*.

Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2013) Unilateral inactivation of frontal eye fields decreases visual, delay, and saccadic activity in intermediate superior colliculus. *Canadian Association for Neuroscience*.

Corneil, B.D. (2013) Not just saccades: lessons learned about the oculomotor system from recording neck muscle activity in human and non-human primates. Presentation at *Cosyne* workshop

Halwerk, K., Selen, L.P.J., **Corneil, B.D.,** Medendorp, W.P. (2012) Vestibular contributions to saccadic target selection. *Soc. Neurosci. Abstr* 372.07.

Peel, T.R., Hafed, Z.M., Lomber, S.G., **Corneil, B.D.** (2012) The frontal eye fields are necessary for bottom-up, cue-induced influences on microsaccades. *Soc. Neurosci. Abstr.* 373.16

Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2012) Functional contribution of the frontal eye fields to activity in the intermediate superior colliculus. *Soc. Neurosci. Abstr.* 373.10

Corneil, B.D. (2012) An animal model for TMS of the frontal eye fields. *8th Computational Motor Control Workshop*. Ben-Gurion University of the Negev, Israel.

Corneil, B.D. (2012) An animal model for TMS of the frontal eye fields. *5th Annual Meeting on Primate Neurobiology*. Tuebingen, Germany

Buchholz, V.N., Goonetilleke, S.C., Medendorp, W.P., **Corneil, B.D.** (2011) Eye-head gaze shifts to visual, tactile, and visuotactile targets under different postures. *Soc. Neurosci. Abstr.* 914.20

Corneil, B.D., Goonetilleke, S.C. (2011) Neck muscle responses evoked by transcranial magnetic stimulation of the frontal eye fields in human and non-human primates. *Soc. Neurosci. Abstr.* 18.07

Farshadmanesh, F., Byrne, P., Yan, X., Wang, H., **Corneil, B.D.,** Crawford, J.D. (2011) A comparison between neck electromyography (EMG) during voluntary torsional head movements to those evoked by unilateral stimulation and inactivation of the interstitial nucleus of Cajal (INC). *Soc. Neurosci. Abstr.* 699.18

Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2011) An analysis of saccadic reaction times by the LATER model following unilateral inactivation of the primate frontal eye fields. *Soc. Neurosci. Abstr.* 272.04

Rath-Wilson, K., Goonetilleke, S.C., Doherty, T.J., Guitton, D., **Corneil, B.D.** (2011) Neuromuscular demonstration of a subcortical visual-motor reflex in a hemi-decorticate patient. *Soc. Neurosci. Abstr.* 914.16

Corneil, B.D. (2011) Decision-making concepts. *Autumn school in Perception, Action and Control*. Nijmegen, the Netherlands.

Corneil, B.D. and Goonetilleke, S.C., (2011) Transcranial magnetic stimulation (TMS) of the frontal eye fields in humans and non-human primates. *European conference on eye movements*

Peel, T.R., Lomber, S.G., **Corneil, B.D.** (2011) Saccadic deficits following unilateral cryogenic inactivation of the primate frontal eye fields *Gordon conference on Eye Movements*

Corneil, B.D. (2011). Neuromuscular responses evoked by TMS of the FEF in human and non-human primates. *Neural control of Movement*.

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PATENTS

Cognitive Control Signals for Neural Prosthetics. Inventors: Musallam S, Andersen RA, **Corneil BD**, Greger B, Schergerger H. Issued Nov 2nd 2010. Patent Number 7826894.

Remote control method of prosthetic limb, involves generating control signal to instruct external device to perform task associated with cognitive signal describing mood, motivation, preference and decision of patient. Inventors: Musallam S, Andersen RA, **Corneil BD**, Greger B, Schergerger H. Filed Oct 6th 2005. Number: WO2005092185-A2; US2005228515-A1g.

EDITORIAL CONSULTANT:
The Anatomical Record; Behavior Research, Methods, Instruments & Computers; BMC Biology; BMJ Open Sport & Exercise Medicine; Brain Research; Brain Stimulation; Cerebral Cortex; Communications Biology; Cortex; Current Biology; European Journal of Neuroscience; Experimental Brain Research; eLife; eNeuro; Frontiers in Integrative Neuroscience; Hearing Research; International Journal of Psychophysiology; Journal of Computational Neuroscience; Journal of Neurophysiology; Journal of Neuroscience; Journal of Neuroscience Methods; Journal of Vision; Movement Disorders; Nature; Nature Communications; Nature Neuroscience; Neuroscience; Neuroscience and Biobehavioral Reviews; Neuroscience Letters; PNAS; PLOS Biology; PLOS Computational Biology; Progress in Neurobiology; Scientific Reports; Vision Research; Transactions on Biomedical Engineering

ACADEMIC REFEREE
2023: External referee for promotion to Associate professor, Simon Fraser University
2022: External referee for promotion to Full professor, University of Ottawa
2022: External referee for promotion to Associate professor, Arizona State University
2022: External referee for promotion to Senior Investigator, Institute of Neuroscience, Chinese Academy of Sciences
2021: External referee for promotion to professor dossier from Queen's University, Kingston ON
2021: External referee for promotion to professor dossier from University of California, Davis
2018: External referee for promotion dossier from Queen's University, Kingston ON
2017: External referee, re-appointment of Senior Scientist, Krembil Research Institute, University Health Network, Toronto ON
2015: External referee for promotion dossier from Elizabethtown College, PA
2014: External referee for promotion dossier from Sydney Medical School
2007: External referee for tenure dossier from the School of Chemical Engineering and Bioengineering, Washingston State University

ACTIVITIES RELATING TO CONFERENCES OR SCIENTIFIC ORGANIZATIONS
Organizing committee, CAPnet satellite for Canadian Association for Neuroscience (2017)
Development officer elect, Society for the Neural Control of Movement (2015-2022)
Contributing member, F1000 Prime (Motor systems section, 2015-2019)
Organizing committee, Southern Ontario Neuroscience Association conference (2014)
Board Member, Society for the Neural Control of Movement (2013-2016)
Co-chair, Gordon Research Conference on Eye Movements (2011-2013)
Organizer, Satellite conference for Canadian Assoication for Neuroscience on Neuroscience Careers in Government and Industry (2013, 2014, 2015)

Co-vice chair, Gordon Research Conference on Oculomotor Systems Biology (2007-2011)
Scientific Advisory Board, European Conference on Eye Movements (2011, 2013, 2015)

GRANTING COUNCIL ACTIVITIES
CIHR, Reviewer, Behavioural Sciences C (2024-)
External reviewer, National Sciences Foundation (2023)
CIHR, Panel member for Project Grants (2017, 2018, 2024)
External reviewer, French National Research Agency (ANR; 2018)
Core Reviewer, Donders PhD Fellowships (2017, 2018)
Human Frontier Science Program, External program grant reviewer (2017)
NSERC, Member of Research Tools and Instruments selection committee (2017)
Sir Henry Welcome PDF Fellowship Reviewer (2016)
CIHR, Panel member for Postdoctoral Fellowships (2013-2016)
FWO (a Belgian basic research organization), external review on PDF application
Canadian Foundation for Innovation (2012)
NSF, External Reviewer (2007, 2012)
Canada Research Chairs, external reviewer (2011)
NSERC, External Reviewer, CREATE program (2011)
NSERC, External Reviewer, Discovery Grants (2006, 2010-11, 2013, 2017-18)
Gordon Research Council (2009)
NSERC, External Reviewer, Steacie Fellowship (2009)
CIHR, Internal Reviewer, Biomechanical Engineering (2009)
CIHR, Master's Research Awards, Committee A (2006-2008)
CIHR, Doctoral Research Awards, Committee A (2005-2008)
CIHR, External Reviewer, Behavioural Sciences C (2005)
Physicians' Services Inc. Foundation, External Reviewer, Resident Research Grant (2005)

DIRECTLY SUPERVISED TRAINEES (graduate students or PDFs only; * indicates co-supervision)

Name	Degree	Time	Origin	Present or post-lab occupation
Brendan Chapman	MSc, PhD	04-11	UWO	Lecturer, Centennial college
Jim Elsley	MSc	05-07	UWO	Lawyer, London
Sam Rezvani	MSc	05-07	UWO	Lawyer, Toronto
Benjamin Nagy	MSc	05-08	UofT	Territory Manager, Boston Scientific
Scott Stevenson	MSc	07-09	UWO	Veterinarian, Private practice
Michael Pace	MSc	08-10	UWO	M.D.
Samanthi Goonetilleke	PDF	07-11	U Sydney	Clinical Psychologist
Tyler Peel	PhD	09-16	UWO	PDF, U Montreal
Todd Stevens	PDF	12-13	UWO	Radiology student
Chao Gu	MSc, PhD	12-18	Queen's	Apple
Suryadeep Dash	PDF	13-18	York	PDF, Michigan State; now Asst Prof, Physiology, SOA Uni, Bhubaneswar India

Sebastian Lehmann	PDF	13-	U Gottingen	Research Associate, Corneil lab
Rebecca Kozak	MSc, PhD	16-23	UWO	Medical Writer; Professor Fanshawe College
Tyler Peel	PDF	16-18	UWO	PDF, U Montreal
Aaron Cecala	PDF	18-22	Elizabetht own, PA	Research Officer, Faculty of Engineering, Western University
Madeline Gilchrist*	MSc, PhD	19-	Trent	Continuing
Sarah Kearsley*	MSc, PhD	20-	UWO	Continuing
David Mekhaiel*	MSc	20-	UWO	Continuing
Aishwarya Pathak*	PhD	20-	India	Continuing
Lucas Billen*	PhD	20-	Radboud U	Continuing (co-supervised with Vivian Weerdesteyn, Radboud U, Nijmegen)
Amirhossein Asadian	MSc	22-24	Iran	Continuing, Lab RA

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