DIRK BERNHARDT-WALTHER

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(last revised: August 14, 2023)

POSITIONS

2019 – present	Associate Professor, Department of Psychology, University of Toronto (St. George)
2014 – present	Associate Scientist (cross-appointment), Rotman Research Institute, Toronto, Canada
2022 – 2023	Interim Director, Toronto NeuroImaging Facility (ToNI)
2019 – 2020	Visiting Professor, Samsung Artificial Intelligence Center, Toronto, Canada
2014 – 2019	Assistant Professor, Department of Psychology, University of Toronto (St. George)
2012 – 2014	Associate Director, Center for Cognitive and Brain Sciences, The Ohio State University
2010 – 2014	Assistant Professor, Department of Psychology, The Ohio State University
2009 – 2010	Postdoctoral Research Associate, Beckman Institute, University of Illinois at Urbana-Champaign
2006 – 2009	Beckman Postdoctoral Fellow, Beckman Institute, University of Illinois at Urbana-Champaign
2006	Postdoctoral Fellow, Centre for Vision Research, York University, Toronto, ON
1999 – 2000	Research Consultant, Lucent Technologies Bell Laboratories, Murray Hill, NJ

EDUCATION

2006	Ph.D., Computation and Neural Systems, California Institute of Technology. Advisors: Dr. Christof Koch, Dr. Pietro Perona
1999	M.Phil., Physics, Trinity College, University of Cambridge, Cambridge, UK. Advisor: Dr. Howard P. Hughes.
1995 – 1998	Undergraduate studies in Physics and Computer Science, Universität Leipzig, Leipzig, Germany, Vordiplom in Physics (1997) and in Computer Science (1998)

ACADEMIC HONORS AND FELLOWSHIPS

2019	Appointed Senior Member of the Institute of Electrical and Electronics Engineers
2017	SONY Faculty Research Award
2015	Connaught New Researcher Award, Connaught Fund, University of Toronto
2012	Fred Brown Research Award for best research paper: Department of Psychology, The Ohio State University
2006 – 2009	Beckman Postdoctoral Fellowship, University of Illinois at Urbana-Champaign

2007   Conference Travel Award for Computational and Systems Neuroscience (Cosyne)

2007   Conference Travel Award for Grand Challenges in Neural Computation

2005 – 2006   Pre-doctoral Fellowship, Sloan-Swartz Center for Theoretical Neuroscience, California Institute of Technology

2005   Best Poster Presentation Award at the Joint Symposium on Neural Computation, University of California Los Angeles

2004   Best Poster Presentation Award at the International Conference on Computer Vision and Pattern Recognition, Washington, D.C.

2000 – 2001   Milton E. Mohr Graduate Fellowship, California Institute of Technology

1996 – 2001   Fellow of the Studienstiftung des deutschen Volkes (German National Scholarship Foundation)

GRANTS

2023 – 2028   PI, Insight Grant (Ref. 435-2023-0015)
              Social Sciences and Humanities Research Council of Canada (SSHRC)
              Title: The role of perceptual grouping in the aesthetic pleasure of viewing real-world scenes; Research Support: CAD 376,409

2023 – 2025   Collaborator (PI: Peter Köhler), VISTA Research Grant, York University
              Title: Marmoset Responses to Mid-level Visual Features investigated with Natural and Artificial Stimuli; Research Support: CAD 51,300

2023 – 2024   Collaborator (PI: Enric Munar), Proyectos de Generación de Conocimiento 2022
              Ministerio de Ciencia e Innovación, Government of Spain (PID2022-137512NB-I00)
              Title: The psychophysiological basis of the preference for curvature
              Research Support: EUR 106,000

2020 – 2025   PI, Discovery Grant (RGPIN-2020-04097)
              Natural Sciences and Engineering Research Council of Canada (NSERC)
              Title: Computational and neural mechanisms of perceptual grouping
              Research Support: CAD 235,000

2019 – 2021   PI (with Michael Grüninger), XSeed Grant
              Faculty of Arts and Science, Faculty of Engineering, University of Toronto
              Title: From Pixels to Propositions: Using Knowledge-based Grouping to Bridge the Meaning Gap in Visual Perception
              Research Support: CAD 120,000

2017 – 2019   PI, Insight Development Grant (430-2017-01189),
              Social Sciences and Humanities Research Council of Canada (SSHRC)
              The role of symmetry in the aesthetic pleasure of viewing real-world scenes
              Research support: CAD 74,733

2017 – 2018   PI, Sony Faculty Research Award, Sony Electronics Inc.
              Symmetry: A Guiding Principle in Visual Processing
              Research support: CAD 62,260

2015 – 2020   PI, Discovery Grant (RGPIN-2015-06696),
              Natural Sciences and Engineering Research Council of Canada (NSERC)
              Neural mechanisms of perceiving dynamic real-world environments
              Research support: CAD 120,000

2015 – 2017   PI, Connaught New Researcher Award, Connaught Fund, University of Toronto
Disentangling influences on the perception of real-world scenes in time and space
Research support: CAD 9,944.72

2015 – 2018   PI, John R. Evans Leaders Fund (Project Number 32896)
Neural mechanisms of natural scene perception, Research support:
Canadian Foundation for Innovation: CAD 100,000
Ontario Research Fund: CAD 100,000
University of Toronto: CAD 34,383

2014 – 2019   co-PI (PI: Vladimir Sloutsky), National Institute for Child Health and Human Development (HD078545-A1, R01), *The Development of Categorization*
Research support: USD 1,925,000.00

2011 – 2013   PI, Seed Grant, Center for Cognitive Science, The Ohio State University
Eye movements as an objective measure of categorization performance
Research support: USD 26,838

2008 – 2013   co-PI (PI: Fei-Fei Li), National Eye Institute (NIH 1 R01 EY019429),
CRCNS: fMRI Pattern Analysis of Neural Correlates of Natural Scenes Categories
Research support: USD 1,302,157

2008 – 2010   co-PI (PI: Mark Hasegawa-Johnson), National Science Foundation
(NSF 0803219, RI-medium),
Audio Diarization - Towards Comprehensive Description of Audio Events
Research support: USD 249,864

2002 – 2003   PI, Seed Grant, Institute for Neuromorphic Engineering
Detection of visual events in underwater video using a neuromorphic saliency-based attention system, Research support: USD 5,000

TEACHING EXPERIENCE

Undergraduate courses:

PSY 198: The Psychology of Magic. In this first-year seminar I discuss the psychological basis of magic tricks and use magic to explore aspects of psychology.
Winter 2019, Winter 2021 (online), Winter 2022 (hybrid), Winter 2023, Winter 2024

PSY 280: Sensation and Perception. Responsible for all elements of course design, including course outline, essay assignments, lecture preparation, and exam development.
Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2020 (online), Fall 2021 (online), Fall 2022 (online), Fall 2023 (online)

PSY 380: Vision Science. Vision Research from the perspective of psychology, neuroscience, and computer science. Responsible for all elements of course design, including course outline, reading list, essay assignments, lecture preparation, and exam development.
Fall 2016, Fall 2018, Winter 2021 (online), Winter 2024

PSY 480: Seminar on Natural Scene Perception. Responsible for all elements of course design, including course outline, reading list, essay assignments, lecture preparation, and exam development. Winter 2015
Seminar on the Neuroscience of Aesthetics. Responsible for all elements of course

design, including course outline, reading list, essay assignments, lecture preparation, and exam development. Fall 2023

Graduate courses:

PSY 5212: Functional MRI of the Human Visual System. Responsible for all elements of course design, including course outline, computational scripts, homework assignments, lecture preparation and design and evaluations of final projects. Winter 2018

PSY 3100: Machine Learning for Psychological Research. Responsible for all elements of course design, including course outline, computational scripts, homework assignments, lecture preparation and design and evaluations of homework assignments.
Winter 2022, Fall 2022

PUBLICATIONS

Google Scholar Profile: https://scholar.google.ca/citations?user=rnps4mgAAAAJ&hl=en

1. Delaram Farzanfar and **Dirk B. Walther** (2023) Changing what you like: Modifying Contour Properties Shifts Aesthetic Valuations of Scenes, *Psychological Science*, in press.

2. Elizabeth Y. Zhou, John Wilder, Claudia Damiano, and **Dirk B. Walther** (2023) Neural Dissociation Between Computational and Subjective Image Complexity, *Psychology of Aesthetics, Creativity, and the Arts*. In press.

3. **Dirk B. Walther**, Delaram Farzanfar, Seohee Han, and Morteza Rezanejad (2023) The Mid-Level Vision Toolbox for Computing Structural Properties of Real-World Images. *Frontiers in Psychology*, in press.

4. Yaelan Jung, Tess Allegra Forest, **Dirk B. Walther**, Amy S. Finn (2023). Neither Enhanced Nor Lost: The Unique Role of Attention in Children's Neural Representations. *Journal of Neuroscience*, **43**(21), 3849-3859. https://doi.org/10.1523/JNEUROSCI.0159-23.2023

5. Claudia Damiano, Pinaki Gayen, Morteza Rezanejad, Archi Banerjee, Gobinda Banik, Priyadarshi Patnaik, Johan Wagemans, **Dirk B. Walther** (2023) Anger is red, sadness is blue: Emotion depictions in abstract visual art by artists and non-artists. *Journal of Vision* Vol. **23**, 1. https://doi.org/10.1167/jov.23.4.1

6. Greer Gillies, Hyun Park, Jason Woo, **Dirk B Walther**, Jonathan S Cant, Keisuke Fukuda (2023) Tracing the emergence of the memorability benefit. *Cognition* 238, 105489. https://doi.org/10.1016/j.cognition.2023.105489

7. Cameron Kyle-Davidson, Elizabeth Y. Zhou, **Dirk B. Walther**, Adrian G. Bors, Karla K. Evans (2023) Characterising and dissecting human perception of scene complexity. *Cognition* **231**, 105319. https://doi.org/10.1016/j.cognition.2022.105319

8. John Wilder, Morteza Rezanejad, Sven Dickinson, Kaleem Siddiqi, Allan Jepson, and **Dirk B. Walther** (2022) Neural correlates of local parallelism during naturalistic vision. *PloS One* 17 (1), e0260266. https://doi.org/10.1371/journal.pone.0260266

9. Morteza Rezanejad, Mohammad Khodadad, Hamidreza Mahyar, Herve Lombaert, Michael Gruninger, **Dirk B. Walther**, Kaleem Siddiqi (2022) Medial spectral coordinates for 3D shape analysis. *IEEE International Conference on Computer Vision and Pattern Recognition*.

10. Gaeun Son, **Dirk B. Walther,** and Michael Mack (2022). Scene wheels: Measuring perception and memory of real-world scenes with a continuous stimulus space. *Behavioral Research Methods* 54 (1), 444-456. https://doi.org/10.3758/s13428-021-01630-5

11. Heping Sheng, John Wilder, and **Dirk B. Walther** (2021) Where to draw the line? *PLoS One* 16 (11), e0258376. https://doi.org/10.1371/journal.pone.0258376

12. Claudia Damiano, **Dirk B. Walther**, and William A. Cunningham (2021) Contour features predict valence and threat judgements in scenes. *Scientific Reports* 11, 19405. https://doi.org/10.1038/s41598-021-99044-y

13. Yaelan Jung and **Dirk B. Walther** (2021) Neural representations in the prefrontal cortex are task dependent for scene attributes but not for scene categories, *Journal of Neuroscience*, 41 (34) 7234-7245. https://doi.org/10.1523/JNEUROSCI.2816-20.2021

14. Claudia Damiano, John Wilder, Yue Zhou, **Dirk B. Walther**, and Johan Wagemans (2021) The role of local and global symmetry in pleasure, interest, and complexity judgements of natural scenes. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. https://doi.org/10.1037/aca0000398

15. Annie Cheng, **Dirk B. Walther**, Soojin Park, and Daniel D. Dilks (2021) Concavity as a diagnostic feature of visual scenes. *NeuroImage* 232, 117920. https://doi.org/10.1016/j.neuroimage.2021.117920

16. Morteza Rezanejad, Sidharth Gupta, Chandra Gummaluru, Ryan Marten, John Wilder, Michael Gruninger, **Dirk B Walther** (2021) Contour-guided Image Completion with Perceptual Grouping. Proceedings of the British Machine Vision Conference.

17. Yaelan Jung, **Dirk B. Walther**, and Amy S. Finn (2020). Children automatically abstract categorical regularities during statistical learning. *Developmental Science*. e13072. https://doi.org/10.1111/desc.13072

18. Kevin P. Darby, Sophia W. Deng, **Dirk B. Walther**, and Vladimir M. Sloutsky (2020). The Development of Attention to Objects and Scenes: From Object-Biased to Unbiased. Child Development. https://doi.org/10.1111/cdev.13469

19. Sabrina Perfetto, John Wilder, and **Dirk B. Walther** (2020). Effects of Spatial Frequency Filtering Choices on the Perception of Filtered Images. *Vision* 4(2): 29. https://doi.org/10.3390/vision4020029

20. Morteza Rezanejad, Gabriel Downs, John Wilder, **Dirk B. Walther**, Allan Jepson, Sven Dickinson, and Kaleem Siddiqi (2019) Scene Categorization from Contours: Medial Axis Based Salience Measures. *IEEE International Conference on Computer Vision and Pattern Recognition*.

21. Claudia Damiano, and **Dirk B. Walther** (2019). Distinct roles of eye movements during memory encoding and retrieval. *Cognition*, 184: 119-129. doi: https://doi.org/10.1016/j.cognition.2018.12.014

22. Claudia Damiano, John Wilder, and **Dirk B. Walther** (2019). Mid-level feature contributions to category-specific gaze guidance. *Attention, Perception, & Psychophysics*, 81: 35-46. https://doi.org/10.3758/s13414-018-1594-8

23. John Wilder, Morteza Rezanejad, Sven Dickinson, Kaleem Siddiqi, Allan Jepson, **Dirk B. Walther** (2019). Local contour symmetry facilitates scene categorization. *Cognition*, 182: 307-317. https://doi.org/10.1016/j.cognition.2018.09.014

24. John Wilder, Sven Dickinson, Allan Jepson, and **Dirk B. Walther** (2018). Spatial relationships between contours impact rapid scene classification. *Journal of Vision*. 18(8):1. https://doi.org/10.1167/18.8.1

25. Matthew X. Lowe, Jason Rajsic, Susanne Ferber, and **Dirk B. Walther** (2018). Discriminating scene categories from brain activity within 100 ms. *Cortex* 106. https://doi.org/10.1016/j.cortex.2018.06.006

26. Thomas P. O'Connell, Per B. Sederberg, and **Dirk B. Walther** (2018). Representational differences between line drawings and photographs of natural scenes: A dissociation between multi-voxel pattern analysis and repetition suppression. *Neuropsychologia*, 117: 513–519. https://doi.org/10.1016/j.neuropsychologia.2018.06.013

27. Yaelan Jung, Bart Larson, and **Dirk B. Walther** (2018). Modality-independent coding of scene categories in prefrontal cortex. *Journal of Neuroscience*. 38(26), 5969–5981. https://doi.org/10.1523/JNEUROSCI.0272-18.2018

28. Yaelan Jung and **Dirk B. Walther** (2018) Using decoding error patterns to trace the neural signature of auditory scene perception, *Proceedings of the 8th International Workshop on Pattern Recognition in NeuroImaging*, Singapore. https://ieeexplore.ieee.org/abstract/document/842395

29. Daniel Berman, Julie D. Golomb, and **Dirk B. Walther** (2017) Scene content is predominantly conveyed by high spatial frequencies in scene-selective visual cortex. *PLOS ONE* 12(12): e0189828. https://doi.org/10.1371/journal.pone.0189828

30. Heeyoung Choo and **Dirk B. Walther** (2017). Modeling the Effect of Stimulus Perturbations on Error Correlations between Brain and Behavior, *Proceedings of the 7th International Workshop on Pattern Recognition in NeuroImaging*, Toronto, Canada

31. Heeyoung Choo, Jack Nasar, Bardia Nikrahei, and **Dirk B. Walther** (2017). Neural codes of seeing architectural styles, *Scientific Reports* 7, 40201, doi:10.1038/srep40201. https://doi.org/10.1038/srep40201

32. Heeyoung Choo and **Dirk B. Walther** (2016) Contour junctions underlie neural representations of scene categories in human visual cortex, *Neuroimage,* 135, 32-44. https://doi.org/10.1016/j.neuroimage.2016.04.021

33. Claudia Damiano and **Dirk B. Walther** (2015) Content, not context, facilitates memory for real-world scenes. *Visual Cognition*, 23(7), 852-855. https://doi.org/10.1080/13506285.2015.1093241

34. Emanuele Olivetti and **Dirk B. Walther** (2015) A Bayesian Test for Comparing Classifier Errors, *Proceedings of the 5th International Workshop on Pattern Recognition in NeuroImaging*: 69-72, Stanford, CA. https://ieeexplore.ieee.org/abstract/document/7270850

35. Thomas O'Connell and **Dirk B. Walther** (2015) Dissociation of salience-driven and content-driven spatial attention to scene category with predictive decoding of gaze patterns, *Journal of Vision*, 12(5):20, 1-13, https://doi.org/10.1167/15.5.20

36. Michael R. Richards, Stephen Rosenstiel, Henry W. Fields, Jr, F. Michael Beck, Allen R. Firestone, **Dirk B. Walther,** and James M. Sacksteder (2015) Contribution of malocclusion and female facial attractiveness to smile esthetics evaluated by eye tracking, *American Journal of Orthodontics and Dentofacial Orthopedics,* 147(4):472-82. https://doi.org/10.1016/j.ajodo.2014.12.016

37. **Dirk B. Walther** and Dandan Shen (2014) Nonaccidental Properties Underlie Human Categorization of Complex Natural Scenes, *Psychological Science*, 25(4): 851-860, https://doi.org/10.1177/0956797613512662

38. Kyungtae Kim, Kai-Hsiang Lin, **Dirk B. Walther**, Mark A. Hasegawa-Johnson, Thomas S. Huang (2014) Automatic Detection of Auditory Salience with Optimized Linear Filters Derived from Human Annotation, *Pattern Recognition Letters*, 38: 78-85. https://doi.org/10.1016/j.patrec.2013.11.010

39. **Dirk B. Walther** (2013) Using confusion matrices to estimate mutual information between two categorical measurements, *Proceedings of the 3rd International Workshop on Pattern Recognition in NeuroImaging*: 220-224. Philadelphia, PA. https://ieeexplore.ieee.org/abstract/document/6603595

40. Ana Torralbo, **Dirk B. Walther**, Barry Chai, Eamon Caddigan, Li Fei-Fei, Diane M. Beck (2013) Good Exemplars of Natural Scene Categories Elicit Clearer Patterns than Bad Exemplars but Not Greater BOLD Activity. *PLoS ONE* 8(3): e58594. https://doi.org/10.1371/journal.pone.0058594

41. Samuel Rivera, Catherine Best, Hyungwook Yim, Aleix Martinez, Vladimir Sloutsky, **Dirk B. Walther** (2012). Automatic selection of eye tracking variables in visual categorization for adults and infants. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society*: 2240-2245. Austin, TX: Cognitive Science Society. https://doi.org/10.48550/arXiv.2010.15047

42. **Dirk B. Walther**, Barry Chai, Eamon Caddigan, Diane M. Beck, and Li Fei-Fei (2011), Simple line drawings suffice for functional MRI decoding of natural scene categories, *Proceedings of the National Academy of Sciences of the USA* 108 (23): 9661-9666. https://doi.org/10.1073/pnas.1015666108

43. Loan T.K. Vo, **Dirk B. Walther**, Arthur F. Kramer, Kirk I. Erickson, Walter R. Boot, Michelle W. Voss, Ruchika S. Prakash, Monica Fabiani, Gabriele Gratton, Daniel J. Simons, and Michelle Y. Wang (2011), Predicting Individuals' Learning Success from Patterns of Pre-learning MRI Activity. *PLoS One* 6(1): e16093. https://doi.org/10.1371/journal.pone.0016093

44. **Dirk B. Walther**, Eamon Caddigan, Li Fei-Fei, and Diane M. Beck (2009), Natural scene categories revealed in distributed patterns of activity in the human brain, *Journal of Neuroscience*, 29(34):10573–10581. https://doi.org/10.1523/JNEUROSCI.0559-09.2009

45. Bangpeng Yao, **Dirk B. Walther**, Diane M. Beck, and Li Fei-Fei (2009) Hierarchical Mixture of Classification Experts Uncovers Interactions between Brain Regions, *Neural Information Processing Systems:* 2178-2186. https://proceedings.neurips.cc/paper/2009/hash/a86c450b76fb8c371afead6410d55534-Abstract.html

46. Barry Chai*, **Dirk B. Walther***, Diane M. Beck, and Li Fei-Fei (2009) Exploring Functional Connectivity of the Human Brain using Multivariate Information Analysis, *Neural Information Processing Systems,* 270-278. (* indicates equal contribution) https://proceedings.neurips.cc/paper/2009/hash/8248a99e81e752cb9b41da3fc43fbe7f-Abstract.html

47. Huazhong Ning, Tony X. Han, **Dirk B. Walther**, Ming Liu, and Thomas Huang (2009), Hierarchical Space-Time Model Enabling Efficient Search for Human Actions, *IEEE Transactions on Circuits and Systems for Video Technology*, 19(6): 808-820. https://doi.org/10.1109/TCSVT.2009.2017399

48. **Dirk B. Walther** and Li Fei-Fei (2007) Task-set switching with natural scenes: Measuring the cost of deploying top-down attention. *Journal of Vision*, 7(11):9, 1-12. https://doi.org/10.1167/7.11.9

49. **Dirk Walther** and Christof Koch (2006) Modeling attention to salient proto-objects, *Neural Networks,* 19(9)**:** p. 1395-1407*.* https://doi.org/10.1016/j.neunet.2006.10.001

50. **Dirk Walther***, Ueli Rutishauser*, Christof Koch, and Pietro Perona (2005) Selective visual attention enables learning and recognition of multiple objects in cluttered scenes, *Computer Vision and Image Understanding,* 100: 41-63*.* (* indicates equal contribution) https://doi.org/10.1016/j.cviu.2004.09.004

51. **Dirk Walther**, Duane R. Edgington, and Christof Koch (2004) Detection and Tracking of Objects in Underwater Video. *IEEE International Conference on Computer Vision and Pattern Recognition,* 1: 544-549. https://ieeexplore.ieee.org/abstract/document/1315079

52. Ueli Rutishauser*, **Dirk Walther***, Christof Koch, and Pietro Perona (2004) Is bottom-up attention useful for object recognition? *IEEE International Conference on Computer Vision and Pattern Recognition,* 2: 37-44. (* indicates equal contribution) https://ieeexplore.ieee.org/abstract/document/1315142

53. **Dirk Walther**, Ueli Rutishauser, Christof Koch, and Pietro Perona (2004), On the usefulness of attention for object recognition, *2nd Workshop on Attention and Performance in Computational Vision at the European Conference for Computer Vision,* 96-103.

54. **Dirk Walther**, Laurent Itti, Maximilian Riesenhuber, Tomaso Poggio, and Christof Koch (2002) Attentional Selection for Object Recognition – a Gentle Way. *Biologically Motivated Computer Vision – Lecture Notes in Computer Science*, Springer 2525: 472-479. https://link.springer.com/chapter/10.1007/3-540-36181-2_47

55. D. Chung, R. Hirata, T. N. Mundhenk, J. Ng, R. J. Peters, E. Pichon, A. Tsui, T. Ventrice, **D. Walther**, P. Williams, and L. Itti (2002) A New Robotics Platform for Neuromorphic Vision: Beobots. *Biologically Motivated Computer Vision – Lecture Notes in Computer Science*, Springer 2525: 558-566. https://link.springer.com/chapter/10.1007/3-540-36181-2_56

BOOK CHAPTERS

56. **Dirk B. Walther** (2021) Architectural styles as subordinate scene categories in *Neuroaesthetics in Focus*. Ed. Eileen Cardillo and Anjan Chatterjee, Oxford University Press.

57. **Dirk B. Walther**, Diane M. Beck, and Li Fei-Fei (2012) To err is human: correlating fMRI decoding and behavioral errors to probe the neural representation of natural scene categories. in: Nikolaus Kriegeskorte and Gabriel Kreiman (eds.), *Visual population codes – Toward a common multivariate framework for cell recording and functional imaging,* MIT Press, Cambridge, Massachusetts, pp. 391-415.

58. **Dirk B. Walther** and Christof Koch (2007) Attention in Hierarchical Models of Object Recognition. in Paul Cisek, Trevor Drew, and John F. Kalaska (eds.), *Computational Neuroscience: Theoretical insights into brain function, Progress in Brain Research,* 165: 57-78.

POPULAR SCIENCE PUBLICATIONS

59. **Dirk B. Walther**, Claudia Damiano, and Zorana Ivcevic Pringle (2023) Unlocking the Emotional Code of Abstract Art, *Psychology Today*, https://www.psychologytoday.com/us/blog/creativity-the-art-and-science/202305/unlocking-the-emotional-code-of-abstract-art

60. Nachiket Kapre, **Dirk Walther**, Christof Koch, and André DeHon (2004) Saliency on a chip – a digital approach on an FPGA. *The Neuromorphic Engineer* 2: 9-11.

61. **Dirk Walther**, and Duane Edgington (2004) The art of seeing jellies. *The Neuromorphic Engineer* 1: 6-6.

CONFERENCE PRESENTATIONS (LAST 3 YEARS)

1. Charlotte Leferink, Jordan DeKraker, Iva Brunec, Stefan Köhler, Morris Moscovitch, and **Dirk B Walther** (2023) Receptive field size and scenes versus faces preference in the hippocampus and medial temporal lobe, *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, QC. (oral)

2. **Dirk B. Walther**, Delaram Farzanfar, Seohee Han, and Morteza Rezanejad (2023) The Mid-level Vision Toolbox for computing structural properties of real-world images, *32nd Annual Computational Neuroscience Meeting*, Leipzig, Germany.

3. Charlotte Leferink, Jordan DeKraker, Iva Brunec, Stefan Köhler, Morris Moscovitch, and **Dirk B Walther** (2023) Delineation between the neurological underpinnings of perceptual versus cognitive visual processing areas, *Philosophy and Mathematics of Situated Agency*, Oulu, Finland (oral)

4. Seohee Han, Morteza Rezanejad, and **Dirk B. Walther** (2023) Making memorability of scenes better or worse by manipulating their contour properties, *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida. (oral)

5. Gaeun Son, Michael L. Mack, and **Dirk B. Walther** (2023) Feature integration in visual search for real-world scenes, *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

6. Delaram Farzanfar, Morteza Rezanejad, and **Dirk B. Walther** (2023) Aesthetic value modulates gaze patterns on proto-object locations, *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

7. Vignash Tharmaratnam, **Dirk B. Walther**, and Jonathan S. Cant (2023) Ensemble Scene Processing is Regulated by Feature Complexity, *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

8. Vignash Tharmaratnam, **Dirk B. Walther**, and Jonathan S. Cant (2023) Non-Visual Summary Statistics Can be Extracted from Visual Scene Ensembles, *16th Canadian Neuroscience Meeting*, Montral, QC.

9. **Dirk B. Walther** (2023) Mid-level vision in complex scenes, *Tagung experimentell arbeitender Psycholog:innen*, Trier, Germany. (oral)

10. Delaram Farzanfar, Gregor Hayn-Leichsenring, Pik ki Ho, Enric Munar, Martin Skov, **Dirk B. Walther**, and Oshin Vartanian (2023) The neural basis of preference for curvature in architecture, *Annual Meeting of the Society for the Neuroscience of Creativity*, San Francisco, CA.

11. Sam Haar, Kikka Okuda, Delaram Farzanfar, and **Dirk B. Walther** (2023) The Relationship Between Aesthetic Judgements and Gaze Behaviour, *Lake Ontario Visionary Establishment*, Niagara Falls, ON.

12. Seohee Han, Morteza Rezanejad, and **Dirk B. Walther** (2023) Making memorability of scenes better or worse by manipulating their contour properties, *Lake Ontario Visionary Establishment*, Niagara Falls, ON.

13. Huiqin Chen, Gaeun Son, and **Dirk B. Walther** (2023) Categorization of continuously changing ambiguous scenes, *Lake Ontario Visionary Establishment*, Niagara Falls, Ontario.

14. Ya Zhao, Vignash Tharmaratnam, **Dirk B. Walther**, and Jonathan S. Cant (2023) Processing average sound level from ensembles of visual scenes, *Lake Ontario Visionary Establishment*, Niagara Falls, ON.

15. Aedan Li, Natalia Ladyka-Wojcik, Heba Qazilbash, Ali Golstani, **Dirk B. Walther,** Chris B. Martin, and Morgan D. Barense (2022) Forming 3-dimensional multimodal object representations relies on integrative coding. *Annual Meeting of the Society for Neuroscience*, San Diego, CA (oral)

16. Moaz Shoura, Adrian Nestor, and **Dirk B. Walther** (2022) Testing the other-race effect with generative adversarial networks. *Annual Meeting of the Society for Neuroscience*, San Diego, CA

17. Delaram Farzanfar and **Dirk B. Walther** (2022) Targeted manipulation of mid-level contour properties causally affects aesthetic liking. *International Association for Empirical Aesthetics,* Philadelphia, PA (oral).

18. **Dirk B. Walther** (2022) Aesthetic pleasure as an epiphenomenon of categorization. *International Association for Empirical Aesthetics,* Philadelphia, PA (oral).

19. Charlotte A. Leferink, Claudia Damiano, and **Dirk B. Walther** (2022) Global and local scene representation across high-level and early visual cortex. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida. (oral)

20. Gaeun Son, **Dirk B. Walther**, and Michael L. Mack (2022) Category learning biases in real-world scene perception. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida. (oral)

21. Aedan Y. Li, Natalia Ladyka-Wojcik, Chris B. Martin, Heba Qazilbash, Ali Golestani, **Dirk B. Walther**, and Morgan D. Barense (2022) Forming 3-Dimensional Multimodal Object Representations Relies on Integrative Coding. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida. (oral)

22. Seohee Han, Morteza Rezanejad, and **Dirk B. Walther** (2022) How do perceptual grouping features affect image memorability? *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

23. **Dirk B. Walther**, Delaram Farzanfar, Gaeun Son (2022) Categorization links Perceptual Fluency and Aesthetic Pleasure. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

24. Huiqin Chen, Gaeun Son, **Dirk B. Walther** (2022) Categorization of continuously changing ambiguous scenes. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

25. Morteza Rezanejad, Kaleem Siddiqi, and **Dirk B. Walther** (2022) Automatic detection of shape parts using maximal inscribed disks. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

26. Delaram Farzanfar and **Dirk B. Walther** (2022) Scene Contour Junctions Influence Visual Aesthetics. *Annual Meeting of the Vision Sciences Society*, St. Pete Beach, Florida.

27. Charlotte Leferink, Jordan DeKraker, Iva Brunec, Stefan Kohler, Morris Moscovitch, and **Dirk B. Walther** (2022) Population receptive eld mapping in hippocampus and surrounding medial temporal regions. *Annual Meeting of the Cognitive Neuroscience Society*, San Francisco, California.

28. Claudia Damiano, Pinaki Gayen, Archi Banerjee, Gobinda Banik, Priyadarshi Patnaik, **Dirk B. Walther**, and Johan Wagemans (2021) Emotions are predictable from abstract colour and line drawings made by artists and non-artists, *European Conference on Visual Perception*

29. Claudia Damiano, Pinaki Gayen, Archi Banerjee, Gobinda Banik, Priyadarshi Patnaik, **Dirk B. Walther**, and Johan Wagemans (2021) Anger is red, sadness is blue: Emotion depictions in

abstract visual art by artists and non-artists, *International Association for Empirical Aesthetics* (online, oral).

30. **Dirk B. Walther**, Elizabeth Yue Zhou, Claudia Damiano, and John Wilder (2021) Relating brain activity to subjective and pixel-based complexity measures, *International Association for Empirical Aesthetics* (online, oral).

31. **Dirk B. Walther**, Heping Sheng, and John Wilder (2021), Where to draw the line? *Canadian Society for Brain, Behaviour and Cognitive Science* (online, oral).

32. Morteza Rezanejad, Sidharth Gupta, Chandra Gummaluru, Ryan Marten, John Wilder, and **Dirk B. Walther** (2021), Object completion with stochastic completion fields predicts human behavior in recognizing degraded object drawings, *Canadian Society for Brain, Behaviour and Cognitive Science* (online).

33. Gaeun Son, **Dirk B. Walther**, and Michael Mack (2021) Scene wheels: Measuring perception and memory of real-world scenes with a continuous stimulus space, *Virtual Futures Conference, Centre for Vision Research, York University, Toronto, Canada* (online)

34. Morteza Rezanejad, Sidharth Gupta, Chandra Gummaluru, Ryan Marten, John Wilder, and **Dirk B. Walther** (2021) Implementing and integrating contour completion using Perceptual Grouping, *Virtual Futures Conference, Centre for Vision Research, York University, Toronto, Canada* (online)

35. Huiqin Chen, Gaeun Son, and **Dirk B. Walther** (2021) Perceptual hysteresis in the categorization of complex scenes, *Virtual Futures Conference, Centre for Vision Research, York University, Toronto, Canada* (online)

36. Morteza Rezanejad, Sidharth Gupta, Chandra Gummaluru, Ryan Marten, John Wilder, and **Dirk B. Walther** (2021), Object completion with stochastic completion fields predicts human behavior in recognizing degraded object drawings, *Virtual Meeting of the Vision Sciences Society* (online, oral).

37. Yongzhen Xie, John Wilder, Morteza Rezanejad, and **Dirk B. Walther** (2021), Local Symmetry in Human and Artificial Neural Networks, *Virtual Meeting of the Vision Sciences Society* (online).

38. Charlotte Hood and **Dirk B. Walther** (2021), No evidence for gender and cultural differences in eye movements – a meta-analysis, *Virtual Meeting of the Vision Sciences Society* (online).

39. Charlotte A Leferink, Claudia Damiano, and **Dirk B Walther** (2021), Retinotopic organization of high-level visual regions in the human brain, *Virtual Meeting of the Vision Sciences Society* (online).

40. Gaeun Son, **Dirk B. Walther**, and Michael L. Mack (2021), Scene wheels: Measuring perception and memory of real-world scenes with a continuous stimulus space, *Virtual Meeting of the Vision Sciences Society* (online).

41. Greer Gillies, Hyun Park, **Dirk B. Walther**, Jonathan Cant, and Keisuke Fukuda (2021), Tracing the emergence of stimulus memorability, *Virtual Meeting of the Vision Sciences Society* (online).

42. **Dirk B. Walther**, Heping Sheng, and John Wilder (2021), Where to draw the line? *Virtual Meeting of the Vision Sciences Society* (online).

43. Morteza Rezanejad, Sidhart Gupta, Chandra Gummaluru, Ryan Marten, John Wilder, Michael Gruninger, and **Dirk B. Walther** (2021). Object Completion with Stochastic Completion Fields. *Ontario Workshop on Computer Vision 2021* (pp. 10).

44. Ben Park, **Dirk B. Walther**, and Keisuke Fukuda (2020), Dynamic Representations in Visual Working Memory, *Virtual Meeting of the Vision Sciences Society* (online).

45. Charlotte A. Leferink and **Dirk B. Walther** (2020), Saliency Map Predictions of DeepGaze II are Influenced by the Convolutional Neural Network Texture Bias, *Virtual Meeting of the Vision Sciences Society* (online).

46. Claudia Damiano, John Wilder, Elizabeth Yue Zhou, **Dirk B. Walther**, and Johan Wagemans (2020), Local and global symmetry differentially affect complexity and aesthetics, *Virtual Meeting of the Vision Sciences Society* (oral; online).

47. Elizabeth Yue Zhou, Claudia Damiano, John Wilder, and **Dirk B. Walther** (2020), Computational measures of perceived image complexity correspond to neural activity in early visual cortex, *Virtual Meeting of the Vision Sciences Society* (online).

48. Frances Grace McCormick, **Dirk B. Walther**, and Karen Bernhardt-Walther (2020), Habitual Scanning Bias in Complex Problem Solving, *Virtual Meeting of the Vision Sciences Society* (online).

49. John Wilder, Morteza Rezanejad, Sven Dickinson, Kaleem Siddiqi, and **Dirk B. Walther** (2020), Local and global symmetry affect brain activity to scenes in different ways, *Virtual Meeting of the Vision Sciences Society* (oral; online).

50. Lauren Yan Lin Cao, Stephanie Yung, and **Dirk B. Walther** (2020), The role of sound in guiding gaze in movies, *Virtual Meeting of the Vision Sciences Society* (online).

51. **Dirk B. Walther**, Sabrina Perfetto, and John Wilder (2020), Spatial Frequency Filtering: Choices Matter (2020), *Virtual Meeting of the Vision Sciences Society* (online).

52. Yaelan Jung, Tess Allegra Forest, **Dirk B. Walther**, and Amy S. Finn (2020), Top-down modulation of visual cortex in the developing human brain, *Virtual Meeting of the Vision Sciences Society* (oral; online).

INVITED TALKS

1. "Gestalt grouping cues for understanding complex scenes: Evidence from psychophysics, neuroscience, and computer vision", Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, July 2023

2. "Like what you see? The role of aesthetics in human visual perception", Friedrich-Schiller-Universität Jena, Germany, July 2023

3. "Gestalt grouping cues for understanding complex scenes", Festschrift for Prof. Allan Jepson, Vancouver, BC, June 2023

4. "Like what you see? The role of aesthetics in human visual perception", KU Leuven, Belgium, March 2023

5. "Like what you see? The role of aesthetics in human visual perception", Keynote Lecture at 50th Lake Ontario Visionary Establishment, Niagara Falls, Canada, Feb. 2023

6. "Aesthetics in the visual perception of complex environments", Psychology Engineering Seminar, University of Toronto, Canada, Feb. 2023

7. "Gestalt grouping cues for understanding complex scenes: Evidence from psychophysics, neuroscience, and computer vision.", York University, Toronto, Canada. Jan. 2023

8. "Gestalt grouping cues for understanding complex scenes", invited talk at Shared Visual Representations in Human & Machine Intelligence workshop at NeurIPS, New Orleans, Lousiana, USA, Dec. 2022

9. "Neural correlates of local parallelism in complex, real-world scenes", invited talk at Symposium on Perceptual Organization - Lessons from Neurophysiology, Human Behavior, and Computational Modeling, Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, May 2022

10. "Gestalt grouping principles in the perception of natural scenes", Technical University Darmstadt, Germany, Jan. 2022 (online)

11. "Machine Learning for Psychological Research", Conference of the Psychology Graduate Students Association, University of Toronto, Jan. 2022 (online)

12. "Aesthetics and perceptual grouping in scene perception", Rotman Research Institute, Baycrest Hospital, Toronto, Ontario, Canada. Dec. 2021 (online)

13. "Cross-modal representations of real-world scenes in the human brain" University of Guelph, Canada, Neuroscience and Applied Cognitive Science Area, October 2021

14. "Cross-modal representations of real-world scenes in the human brain" University of Illinois at Urbana-Champaign, USA, Cognitive Neuroscience Brownbag, October 2021

15. "Aesthetic and affective aspects of scene perception" University of Illinois at Urbana-Champaign, USA, Attention/Perception Brownbag, November 2021

16. "Aesthetic and affective aspects of scene perception" Universität Wien, Austria, July 2021.

17. "Cross-modal representations of real-world scenes in the human brain" 20th EdukCircle International Convention on Psychology, Manila, Philippines, March 2021 (online)

18. "Aesthetic and affective aspects of scene perception" Ebbinghaus Empire Colloquium, Department of Psychology, University of Toronto, Ontario, Canada. January 2021 (online)

19. "Cross-modal representations of real-world scenes in the human brain" Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, May 2020 (online)

20. "Cross-modal representations of real-world scenes in the human brain" Rotman Research Institute – Research Day, Baycrest Hospital, Toronto, February 2020

21. "Cross-modal representations of real-world scenes in the human brain" University of Toronto at Mississauga Seminar, Mississauga, Ontario, January 2020

22. "Grouping Visual Elements in a Meaningful Way" Psychology Engineering Seminar, University of Toronto, November 2019

23. "Cross-modal, affective and aesthetic aspects of scene perception" Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany, July 2019

24. "Confusion Matrices" – Toronto Neuroimaging Facility Users Meeting Toronto, June 2019

25. "Visual and cross-modal representations of real-world scenes in the human brain." University of Toronto at Scarborough Seminar, Scarborough, Ontario, June 2019

26. "Visual and cross-modal representations of real-world scenes in the human brain." Samsung AI Research Toronto, November 2018

27. "Visual and cross-modal representations of real-world scenes in the human brain." University of Macau, SAR Macau, China. June 2018

28. "Visual and cross-modal representations of real-world scenes in the human brain." Yonsei University, Seoul, South Korea. June 2018

29. "Visual and cross-modal representations of real-world scenes in the human brain."
    Brain and Mind Institute, Western University, London, Ontario, Canada, April 2018

30. "Perceptual Grouping." Art Gallery of Ontario "First Thursdays" event, Toronto, Ontario, Canada.
    March 2018

31. "Visual and cross-modal representations of real-world scenes in the human brain."
    Rotman Research Institute, Baycrest Hospital, Toronto, Ontario, Canada. October 2017

32. "2D Cues to 3D Structure Underlie Categorization of Real-world Scenes."
    Centre de Recherche Cerveau et Cognition, Toulouse, France. June 2016

33. "Contour junctions underlie neural representations of scene categories in high-level human visual
    cortex." Freie Universität Berlin, Berlin, Germany. June 2016

34. "Contour junctions underlie neural representations of scene categories in high-level human visual
    cortex." Goethe Universität Frankfurt, Frankfurt am Main, Germany. June 2016

35. "2D Cues to 3D Structure Underlie Categorization of Real-world Scenes."
    Toronto Western Hospital, Toronto, Ontario, Canada. June 2016

36. "2D Cues to 3D Structure Underlie Categorization of Real-world Scenes."
    International Conference on Perceptual Organization, Centre for Vision Research, York University,
    Toronto, Ontario, Canada. June 2015

37. "Contour junctions are important for neural representations of scenes."
    Google Inc., Mountain View, California, USA. June 2015

38. "Contour junctions are important for neural representations of scenes."
    Department of Psychology, Stanford University, California, USA. June 2015

39. "Pattern Recognition for fMRI Analysis: Deciphering the Neural Mechanisms of Natural Scene
    Categorization." University of Toronto/Tel Aviv University Joint Imaging Conference, Toronto, ON,
    Canada. May 2015

40. "Which features do people use to categorize natural scenes?"
    Department of Computer Science, University of Toronto, Ontario, Canada. March 2015

41. "Neural mechanisms of categorizing real-world scenes."
    Centre for Vision Research, York University, Toronto, Ontario, Canada. November 2014

42. "Which features do people use to categorize natural scenes?" Ebbinghaus Empire Colloquium,
    Department of Psychology, University of Toronto, Ontario, Canada. October 2014

43. "Scene categorization is based on structural, not textural features."
    Center for Information Technology, Fondazione Bruno Kessler, Trento, Italy. July 2013

44. "The neural representation of natural scene categories." Department of Psychology, University of
    Pennsylvania, Philadelphia, Pennsylvania, USA. June 2013

45. "The neural representation of natural scene categories." Department of Psychology, University of
    Toronto, Toronto, Ontario, Canada. November 2012

46. "The neural representation of natural scene categories." Cogfest, Center for Cognitive Science,
    The Ohio State University, Columbus, Ohio, USA. May 2011

47. "The neural representation of natural scene categories." Donders Institute for Brain, Cognition
    and Behaviour, Nijmegen, Netherlands. February 2011

48. "The neural representation of natural scene categories." Netherlands Institute for Neuroscience, Amsterdam, Netherlands. February 2011

49. "The neural representation of natural scene categories." Max Planck Institute for Biological Cybernetics, Tübingen, Germany. June 2010

50. "Perceiving real-world visual scenes." Department of Cognitive Science, Johns Hopkins University, Baltimore, Maryland, USA. February 2010

51. "Perceiving real-world visual scenes." Department of Psychology, The Ohio State University, Columbus, Ohio, USA. February 2010

52. "The neural representation of natural scene categories." California Institute of Technology, Pasadena, California, USA. August 2009

53. "The neural representation of natural scene categories." Leibniz Institute for Neurobiology, Otto-von-Guericke-Universität Magdeburg, Germany. June 2009

54. "I Know What You Saw Last Summer: Decoding Brain Activity Associated with Natural Scenes." Beckman Institute Director's Seminar, University of Illinois, Urbana, Illinois, USA. April 2008

55. "The neural representation of natural scene categories." Workshop on "Characterizing and decoding distributed brain representations" at Cosyne, Snowbird, Utah, USA. March 2008

56. "Modeling attention to salient proto-objects." Workshop on "Models and mechanisms of visual attention: a critical appraisal" at NIPS, Whistler, British Columbia, Canada. December 2007

57. "Modeling attention to salient proto-objects." Scene Understanding Symposium at MIT, Cambridge, Massachusetts, USA. February 2007

58. "Modeling Feature Sharing between Object Detection and Top-down Attention." Workshop on "Attention and Performance in Computational Vision" at CVPR San Diego, California, USA. June 2005

59. "Selective Attention for Machine Vision." MIT Perceptual Science Laboratory, Cambridge, Massachusetts, USA. November 2004

60. "Detection of Visual Events in Underwater Video." Monterey Bay Aquarium Research Institute, Moss Landing, California, USA. August 2003

61. "Attentional Selection for Object Recognition – a Gentle Way." Institute of Neuroinformatics, ETH and University of Zurich, Switzerland. November 2002

SERVICE

2023	Acting Chair of the Department of Psychology for 16 days
2023	Member, promotion and tenure committee, Department of Psychology
2022	External letter writer for tenure evaluation at Bates College
2022	Member, teaching evaluation committee for promotion to full professor, Department of Psychology
2021	Evaluation of scientists at the Rotman Research institute (4 cases)
2021	Member, four teaching evaluation committees, Department of Psychology
2021 – present	Member, Undergraduate Committee, Department of Psychology
2020 – present	Member, IT Committee, Department of Psychology

2020   Member of two teaching evaluation committees

2020   Member of committee for Interim Review for Promotion and Tenure

2020   Member, Search Committee for Chair of the Department of Psychology

2019   Search Committee for two Canada Research Chair positions, Rotman Research Institute

2018 – 2019   Chair, Department Website Committee

2018   Member, Departmental Progress-Through-the-Ranks (PTR) committee

2018   Member, Department of Psychology Undergraduate Awards Selection Committee

2018   Member, University of Toronto Excellence Awards Selection Committee

2016 – 2022   Chair, Technical Committee of the Toronto NeuroImaging (TONI) facility

2016 – present Member, Executive Committee of the Toronto NeuroImaging (TONI) facility

2016 – 2019   Member, committee for redesigning Department of Psychology website

2016 – 2017   Member, Search Committee for MR Technician

2015 – 2016   Member, Search Committee for MR Physicist

2015 – 2016   Member, School of Graduate Studies NSERC CGS-M Committee

2015 – 2017   Member, Department of Psychology NSERC CGS-M Ranking Committee

2014 – 2016   Member, MRI Committee, Department of Psychology, University of Toronto

2014 – 2015   Member, Search Committee for Research Coordinator position

2014 – 2019   Chair, IT Committee, Department of Psychology, University of Toronto

2012 – 2014   Member, Committee for the establishment of a graduate minor in Cognitive and Brain Sciences, The Ohio State University

2012 – 2014   Member, Executive Committee of the Center for Brain and Cognitive Sciences

2012 – 2014   Member, Management Committee of the Center for Cognitive and Behavioral Brain Imaging, The Ohio State University

2011 – 2014   Chair, fMRI Technology Committee, Center for Cognitive and Behavioral Brain Imaging, The Ohio State University

PROFESSIONAL ACTIVITIES

2023 – present Associate Editor, *Psychology of Aesthetics, Creativity, and the Arts* (APA Division 10)

2022 – present Co-editor of Special Research Topic on "Perceptual Organization" in *Frontiers in Computer Science, Psychology, and Neuroscience*

2022 – present Author and maintainer of freely available MLV Toolbox software (http://mlvtoolbox.org)

2022   Co-organizer of Symposium on "Perceptual Grouping" at VSS

2021 – present Associate Editor, ACM Transactions on Applied Perception

2021   Organizer of VSS Satellite Event "Teaching Vision"

2020 – present Founder and moderator of Slack channel "Teaching Sensation and Perception" for exchanging ideas and teaching materials among instructors world-wide

2020   Member of the VSS Elsevier International Travel Awards Committee

Dirk Bernhardt-Walther   Curriculum Vitae

2019 – present	Consulting Editor, Attention, Perception and Psychophysics
2017 – 2019	Chair, Steering Committee for the International Workshop on Pattern Recognition in Neuroimaging
June 2016	Program Chair, 6th International Workshop on Pattern Recognition in Neuroimaging, Trento, Italy
June 2015	Member of the Program Committee, 5th International Workshop on Pattern Recognition in NeuroImaging, Stanford, California, USA
June 2015	Ad-hoc member of the Cognition and Perception study section at the National Institutes of Health, Annapolis, Maryland, USA
2014 – 2016	Action Editor, Neural Networks
June 2014	Member of the Program Committee, 4th International Workshop on Pattern Recognition in NeuroImaging, Tübingen, Germany
June 2013	Member of the Program Committee, 3rd International Workshop on Pattern Recognition in NeuroImaging, Philadelphia, PA, USA
July 2012	Member of the Program Committee, 2nd International Workshop on Pattern Recognition in NeuroImaging, London, UK
March 2008	Organizer, Workshop on "Characterizing and decoding distributed brain representations" at Computational and Systems Neuroscience, Snowbird, Utah
Dec. 2007	Organizer, Workshop on "Models and mechanisms of visual attention: a critical appraisal" at Neural Information Processing Systems, Whistler, British Columbia
2006 – current	Author and maintainer of freely available **SaliencyToolbox** software (http://saliencytoolbox.net) More than 17,000 downloads since 2006, cited in more than 1,500 papers.
July 2002	Organizer, Workshop on "Saliency-based visual attention" at the Neuromorphic Engineering Summer School, Telluride, Colorado

Ad-hoc Reviewing:

Nature Communications; PNAS; Current Biology; Journal of Neuroscience; Psychological Review; Cerebral Cortex; Neuroimage; Neuropsychologia; Brain Research; Neural Networks; Neural Computation; Journal of Vision; Vision Research; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Human Perception and Performance; Cognition; Attention, Perception & Psychophysics; Frontiers in Perception Science; PLoS One; PLoS Computational Biology; IEEE Transactions on Pattern Analysis and Machine Intelligence; International Journal of Computer Vision; Computer Vision and Image Understanding; Biological Cybernetics; IEEE Transactions on Image Processing; IEEE Transactions on Multimedia; Pattern Recognition; Multimedia Systems Journal; Journal of Information Science and Technology.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS)
Society for Neuroscience (SfN)
Vision Sciences Society (VSS)
Organization for Computational Neuroscience
Association for Psychological Science (APS)

American Psychological Association (APA)
  Division 3 (Society for Experimental Psychology and Cognitive Science)
  Division 10 (Society for the Psychology of Aesthetics, Creativity and the Arts)
International Association of Empirical Aesthetics (IAEA)
Deutscher Hochschulverband (DHV)
Senior Member, Institute for Electrical and Electronics Engineers (IEEE)
IEEE Computer Society

MENTORING

Masters Students:

2011 – 2012   Dandan Shen: Categorization of Line Drawings of Natural Scenes Using Non-Accidental Properties Matches Human Behavior

2012 – 2014   Daniel Berman: From Photons to Photos: Mapping Functional and Organizational Properties of Human Visual Cortex with fMRI

2014 – 2015   Claudia Damiano: Eye movements as a predictor of the perception and memory of scenes

2019 – 2020   Ben Hyun Park: Visual Working Memory Resetting

Doctoral Students:

2014 – 2019   Yaelan Jung: Neural codes of cross-modal representations of abstract concepts

2015 – 2019   Claudia Damiano: Attentional and emotional contributions to viewing natural scenes

2017 – 2023   Charlotte Leferink: Modeling perception of photographs and line drawings of real-world scenes with deep convolutional neural networks

2021 – 2023   Dalaram Farzanfar: Aesthetics of Scene Perception

2019 – present Gaeun Son: Characterizing visual information stored in short-term memory

2021 – present Seohee Han: Mid-level feature contributions to scene perception and memorability

2023 – present Athanasios Bourganos

Postdoctoral Fellows:

2012 – 2014   Heeyoung Choo: The role of contour properties in scene perception

2015 – 2021   John Wilder: The effect of symmetry on scene perception (co-supervised with Sven Dickinson, Computer Science, University of Toronto)

2020 – 2022   Morteza Rezanejad: Shape Based Measures Improve Scene Categorization

2023 – present Claudia Damiano