Peter J. Kohler, PhD
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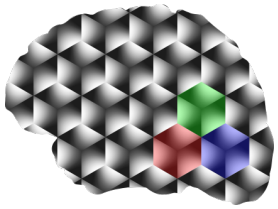

Employment

Assistant Professor, York University, Toronto — *July 2019 – present*

Research Associate, Stanford University — *September 2018 – June 2019*

Post-doctoral Scholar, Stanford University — *September 2013 – August 2018*

Doctoral Student, Dartmouth College — *September 2008 – August 2013*

Graduate Volunteer Researcher, Dartmouth College — *October 2007 – June 2008*

Education

PhD, Cognitive Neuroscience, Dartmouth College, Hanover NH — *September 2008 – August 2013*

B.Sc. in Psychology, University of Copenhagen, Denmark — *September 2004 – July 2007*

Grants

NSERC Discovery Grant 2020-2025 (awarded, $132,500):
Symmetry as a cue to object and scene representations in human visual cortex

York University Junior Faculty Fund & Minor Research Grant 2020 (awarded, $5000):
Symmetry in Natural Vision

Service

Center for Vision Research, Member of Steering Committee (director: Rob Allison, 2020-)

Center for Vision Research, Seminar Coordinator (2022-)

Center for Vision Research, Member of Communications Committee (2020-)

Faculty of Health Senator (2020-)

Guest Editor: *Symmetry* (IF: 2.6) special issue: Symmetry and Its Application in Visual Neuroscience (planned for March 2023)

Contributor to JsPsych, a JavaScript library for running behavioral experiments online (2020-)

Teaching

NRSC 2200: Neuroscience Laboratory Techniques, Winter 2022

PSYC 2240: Biological Bases of Behavior, Fall 2020

PSYC 4260: Seminar in Sensation and Perception, Fall 2021

PSYC 6273: Computer Programming for Experimental Psychology, Winter 2021

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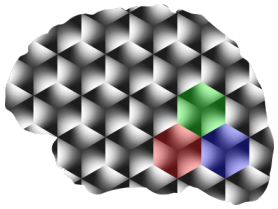

Mentorship

Graduate Supervision:

S. Chaparian, PhD, Biology, 2022-

S. Ragavaloo, Master's, Psychology, 2022-

R. Moreau, Master's, Psychology, 2020-2022

Graduate committee membership:

K. Jaksic, Master's, Kinesiology & Health Science, 2022- [member]

R. Cohan, Master's, Psychology, 2022- [member]

R. Whiley, PhD, Biology, 2021- [member]

R. Gastrock, PhD, Psychology, 2021- [member]

N. Khan, PhD, Psychology, 2019- [member]

B. Baltaretu, PhD, Biology, 2021 [chair/internal]

F. Lan, Master's, Computer Science and Engineering, 2021 [internal]

J. Patel, Master's, Psychology, 2020-2021 [member]

R. Gastrock, Master's, Psychology, 2019-2021 [member]

UG RAs: Christopher Lee (2020-2022), Linda Godley (2020-2021), Rachel Lysenko (2020-2022), Shaya Samet (2022-), Yara Iskandar (2022-)

UG Honor's Theses: Rita Hdaki (Bio, 2021-2022), Shaya Samet (Psyc, 2021-2022)

Other mentorship: York Stem Fellowship Indicium, supervising 4 BA students (2020-2021)

Peer-reviewed Publications

Kohler, PJ, Vedak, S & Gilmore, RO (2022). Perceptual Similarities among Wallpaper Group Exemplars. *Symmetry 14*(5)*,* 857.

Boswell, A., **Kohler**, PJ, McCarthy, JD & Caplovitz, GP (2021). Perceived group size is determined by the centroids of the component elements. *Journal of Vision 21*(13), 1.

Sievers, B, Parkinson, C, **Kohler**, PJ, Hughes, J, Fogelson, S & Wheatley, T (2021). Visual and auditory brain areas share a representational geometry for perceiving emotion. *Current Biology*, 31, 1–12

Audurier, P, Héjjà-Brichard, Y, De Castro, V, **Kohler**, PJ, Norcia, AM, Durand, J-B & Cottereau, BR (2021). Symmetry processing in the macaque visual cortex. *Cerebral Cortex*.

Kohler, PJ & Clarke, A. (2021). The human visual system preserves the hierarchy of 2-dimensional pattern regularity. *Proceedings of the Royal Society B: Biological Sciences, 288, 20211142.*

Norcia, AM, Lee, A, Meredith, W, **Kohler**, PJ, Pei, F, Ghassan, S, Libove, R, Phillips, J & Hardan, AY (2021). A case-control study of visual, auditory and audio-visual sensory interactions in children with Autism Spectrum Disorder. *Journal of Vision, 21*(4), 5.

Van Rinsveld, A, Guillaume, M, **Kohler**, PJ, Schiltz, C, Gevers, W & Content, A (2020). The neural signature of numerosity by Separating numerical and continuous magnitude extraction in visual cortex with frequency-tagged EEG. *Proceedings of the National Academy of Sciences, 117*(11), 5726-5732.

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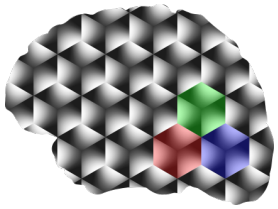

Barzegaran, E, Bosse, S, **Kohler**, PJ & Norcia, AM (2019). EEGSourceSim: A framework for realistic simulation of EEG scalp data using MRI-based forward models and biologically plausible signals and noise. *Journal of Neuroscience Methods, 328,* 108377.

Kohler, PJ, Cottereau, BR & Norcia, AM (2019). Image Segmentation Based on Relative Motion and Relative Disparity Cues in Topographically Organized Areas of Human Visual Cortex. *Scientific Reports, 9*(1), 9308.

Manning C, Kaneshiro B, **Kohler** PJ, Duta M, Scerif G & Norcia AM (2019) Neural dynamics underlying coherent motion perception in children and adults. *Developmental Cognitive Neuroscience, 38,* 100670.

Kohler, PJ, Meredith, WJ and Norcia, AM (2018). Revisiting the functional significance of binocular cues for perceiving motion in depth. *Nature Communications, 9*(1), 3511.

Alp, N, **Kohler**, PJ, Kogo, N, Wagemans, J and Norcia, AM (2018). Measuring Integration Processes in Visual Symmetry with Frequency-Tagged EEG. *Scientific Reports 8*(1), 6969.

Kanayet, F, Mattarella-Micke, A, **Kohler**, PJ, Norcia, AM, McCandliss, B and McClelland, JM (2018). Distinct representations of magnitude and spatial position within parietal cortex during number-space mapping. *Journal of Cognitive Neuroscience, 30*(2), 200-218.

Kohler, PJ, Cottereau, BR and Norcia, AM (2018). Dynamics of Perceptual Decisions About Symmetry in Visual Cortex. *NeuroImage, 167,* 316-330.

Norcia, AM, Pei, F & **Kohler**, PJ (2017). Evidence for long-range spatio-temporal interactions in infant and adult visual cortex. *Journal of Vision, 17*(6), 12.

Kohler, PJ, Cavanagh, P, & Tse, PU (2017). Motion-induced position shifts activate early visual cortex. *Frontiers in Neuroscience, 11*(168).

Kohler, PJ, Clarke, A, Yakovleva, A, Liu, Y & Norcia, AM (2016). Representation of maximally regular textures in human visual cortex. *Journal of Neuroscience, 36*(3), 714 –729.

McCarthy, JD, **Kohler**, PJ, Tse, PU & Caplovitz, GP (2015). Extrastriate Visual Areas Integrate Form Features over Space and Time to Construct Representations of Stationary and Rigidly Rotating Objects. *Journal of Cognitive Neuroscience, 27*(11), 2158-2173.

Kohler, PJ, Cavanagh, P, & Tse, PU (2015). Motion-induced position shifts are influenced by global motion, but dominated by component motion. *Vision Research, 110*, 93-99.

Schlegel, A, Alexander, P, Fogelson, SV, Li, X, Lu, Z, **Kohler**, PJ, Riley, E, Tse, PU, & Meng, M (2015). The artist emerges: Visual art learning alters neural structure and function. *NeuroImage, 105*, 440-451.

Kohler, PJ, Caplovitz, GP & Tse, PU (2014). The global slowdown effect: Why does perceptual grouping reduce perceived speed? *Attention, Perception and Psychophysics, 76*(3), 780-792.

Fogelson, SV, **Kohler**, PJ, Miller, KJ, Granger, R, and Tse, PU (2014). Unconscious neural processing differs with method used to render stimuli invisible. *Frontiers in Psychology, 5*(601).

Schlegel, AS, **Kohler**, PJ, Fogelson, SV, Alexander, P, Konuthula, D & Tse, PU (2013). Network structure and dynamics of the mental workspace. *Proceedings of the National Academy of Sciences, 110*(40), 16277-16282.

Kohler, PJ, Fogelson, SV Reavis, EA, Meng, M, Guntupalli, JS, Hanke, M, Halchenko, YO, Connolly, AC, Haxby, JV & Tse, PU (2013). Pattern classification precedes regional-average hemodynamic response in early visual cortex. *NeuroImage, 78,* 249–260.

Reavis, EA, **Kohler**, PJ, Caplovitz, CP, Wheatley, T & Tse, PU (2013). Effects of attention on visual experience during monocular rivalry. *Vision Research, 83,* 76-81.

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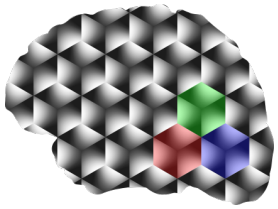

Parkinson, C, **Kohler**, PJ, Sievers, B & Wheatley, T (2012). Associations between auditory pitch and visual elevation do not depend on language: Evidence from a remote population. *Perception, 47*(7), 854-861.

Porter, KB, Caplovitz, GP, **Kohler**, PJ, Ackerman, CM & Tse, PU (2011). Rotational and translational motion interact independently with form. *Vision Research, 51*(23), 2478-2487.

Kohler, PJ, Caplovitz, GP, Hsieh, P-J, Sun, J & Tse, PU (2010). Motion fading is driven by perceived, not actual angular velocity. *Vision Research, 50*(11), 1086–1094.

Kohler, PJ, Caplovitz, GP & Tse, PU (2009). The whole moves less than the spin of its parts. *Attention, Perception & Psychophysics, 71*(4), 675-679.

Mala, H, Castro, MR, Knippel, J, **Kohler**, PJ, Lassen, P & Mogensen, J (2008). Therapeutic effects of a restraint procedure on posttraumatic place learning in fimbria-fornix transected rats. *Brain Research, 1217,* 221-231.

Book Chapters

Caplovitz, GP Hsieh, P-J, **Kohler**, PJ & Porter, KB (2017). The Spinning Ellipse Speed Illusion. In *Oxford Compendium of Visual Illusions* (pp. 170-173): Oxford University Press.

Tse, PU, Reavis, EA, **Kohler**, PJ, Caplovitz, GP, & Wheatley, T (2013). How Attention can Alter Appearances. In *Handbook of Experimental Phenomenology* (pp. 291-315): John Wiley & Sons, Ltd.

Presentations

Conference Talks

2021 May — “Differential processing of reflection and rotation symmetries in visual textures” **student-led talk** *Vision Sciences Society*, St. Petersburg, FL

2018 May — “Characterizing late-developing binocular motion mechanisms in human visual cortex” *Vision Sciences Society*, St. Petersburg, FL

2017 May — “Neural responses to motion in 2 and 3 dimensions” *Vision Sciences Society*, St. Petersburg, FL

2015 May — “Parametric responses to rotation symmetry in mid-level visual cortex” *Vision Sciences Society*, St. Petersburg, FL

2012 May — “Neural correlates of perceptually bistable motion-based grouping” *Vision Sciences Society*, Naples, FL

Invited Talks

2022 July — “Visual Neuroscience: Symmetry as a case study” CVR Summer School 2022, York University, Toronto

2021 July — “Symmetry and Visual Perception” CVR Summer School 2021, York University, Toronto

2021 April — “Symmetries in Visual Textures” keynote, *Visual Properties Driving Visual Preference* workshop, University of Liverpool, UK

2019 March — “The role of motion in organizing visual perception” Department of Psychology, York University, Toronto

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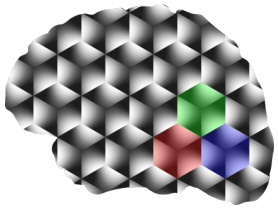

2019 February	"Exploring perceptual organization with steady-state EEG" Department of Neuroscience, Psychology and Behaviour, University of Leicester, UK
2018 February	"Symmetry as a fundamental feature dimension in mid-level vision" Department of Psychology, York University, Toronto
2017 July	"Steady-state visual evoked potentials in EEG experiments" Core Outreach Workshop, University of Lincoln, Nebraska
2016 February	"Texture regularity processing in human visual cortex" NASA Ames Research Center, Moffett Field, CA
2015 December	"Perceptual organization at multiple stages of cortical processing" Danish Centre For Magnetic Resonance, Hvidovre, Denmark
2015 August	"Perceptual organization at multiple stages of cortical processing" Cognitive Neuroscience Research Unit, Aalborg, Denmark
2015 August	"Perceptual organization at multiple stages of cortical processing" Department of Psychology, Lund University, Sweden
2015 August	"Perceptual organization at multiple stages of cortical processing" Fraunhofer Heinrich Hertz Institute, Berlin, Germany
2014 January	"The Influence of Local and Global Motion on Shifts in Perceived position" Institut de Neurosciences de la Timone, Marseille, France
2014 January	"Probing the neural underpinnings of Motion-induced Position Shifts" Université Paris Descartes, France

Posters

Shams, M, **Kohler**, PJ & Cavanagh, P (2022). Flash Localization in the Vicinity of a Moving Object. Poster at *European Conference on Visual Perception*, Nijmegen, Netherlands.

Kohler, PJ, Norcia, AM & McCandliss, B (2019). Steady-state visual evoked potentials reveal parietal contributions to abstract numerosity. Poster at *Neuroscience*, Chicago, IL.

Kohler, PJ, Barzegaran, E, Davis, BE & Norcia, AM (2019). Encoding- and decision-related brain activity during a motion judgment task. Poster at *Vision Sciences Society,* St. Petersburg, FL.

Kohler, PJ, Norcia, AM & McCandliss, B (2019). Assessing Parietal Contributions to Abstract Numerosity with Steady State Visual Evoked Potentials (SSVEPs). Poster at *Cognitive Neuroscience Society*, San Francisco, CA.

Kohler, PJ, Cottereau, BR & Norcia, AM (2016). Cortical areas encoding visual segmentation cues from relative motion and relative disparity. Poster at *FENS Forum of Neuroscience*, Copenhagen, Denmark.

Kohler, PJ, Cottereau, BR & Norcia, AM (2016). Identifying cortical areas involved in perceptual decisions about symmetry. Poster at *Vision Sciences Society*, St. Petersburg, FL.

Kohler, PJ & Norcia, AM (2015). Does SNR of visually evoked BOLD responses change with rapid multiplexed fMRI? Poster at *Cognitive Neuroscience Society*, San Francisco, CA.

Kohler, PJ, Harder, LH, & Tse, PU (2013). The influence of local and global motion on perceived position. Poster at *Vision Sciences Society*, Naples, FL.

Kohler, PJ, Cavanagh, CEP, & Tse, PU (2012). The influence of motion integration on shifts in perceived position. Poster at *European Conference on Visual Perception*, Alghero, Italy.

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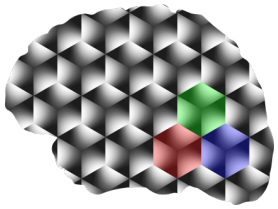

Kohler, PJ, Fogelson, SF, Reavis, EA & Tse, PU (2011). The neural basis of lightness constancy in the visual system. Poster at *Vision Sciences Society,* Naples, FL.

Kohler, PJ, Zafer, M, Reavis, EA, & Tse, PU (2010). The Ebbinghaus illusion requires consciousness of the inducers. Poster at *Association for the Scientific Study of Consciousness 14*, Toronto, Canada.

Kohler, PJ, Fogelson, SV, Reavis, EA, Guntupalli, JS & Tse, PU (2010). The Relationship Between Multivariate Pattern Classification Accuracy and Hemodynamic Response Level in Visual Cortical Areas. Poster at *Vision Sciences Society*, Naples, FL.

Kohler, PJ, Caplovitz, GP & Tse, PU (2009). The whole moves less than the spin of its parts. Poster at *Vision Sciences Society*, Naples, FL.

Peer Reviewer

NSERC Discovery Grant External Reviewer
Attention, Perception and Psychophysics
Brain Structure and Function
Cognitive Processing
Communications Biology
eLife
Frontiers of Psychology
Journal of Vision
Journal of Neuroscience
NeuroImage
Neuropsychologia
Perception
PLOS one
Psychological Science
3D Research
Vision Research