

## *Employment*

---

<b>Assistant Professor</b> , York University, Toronto	July 2019 – present
<b>Research Associate</b> , Stanford University	September 2018 – June 2019
<b>Post-doctoral Scholar</b> , Stanford University	September 2013 – August 2018
<b>Doctoral Student</b> , Dartmouth College	September 2008 – August 2013
<b>Graduate Volunteer Researcher</b> , Dartmouth College	October 2007 – June 2008

## *Education*

---

<b>PhD, Cognitive Neuroscience</b> , Dartmouth College, Hanover NH Thesis title: "Motion and Position Interact at Both Early and Late Stages of the Human Visual System" Advisor: Peter U. Tse	September 2008 – August 2013
<b>B.Sc. in Psychology</b> , University of Copenhagen, Denmark	September 2004 – July 2007

## *Peer-reviewed Publications*

---

- Kohler**, PJ, Barzegaran, E, Norcia, AM & McCandliss, B (under review). Parietal contributions to abstract numerosity measured with steady state visual evoked potentials. *Journal of Cognitive Neuroscience*.
- Sievers, B, Parkinson, C, **Kohler**, PJ, Hughes, J, Fogelson, S & Wheatley, T (under review). Visual and auditory brain areas share a neural code for perceived emotion. *eLife*.
- Norcia, AM, Lee, A, Meredith, W, **Kohler**, PJ, Pei, F, Ghassan, S, Libove, R, Phillips, J & Hardan, AY (in revision). A case-control study of visual, auditory and audio-visual sensory interactions in children with Autism Spectrum Disorder. *Journal of Vision*.
- 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*.
- 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, Cottureau, BR & Norcia, AM (2019). Image Segmentation Based on Relative Motion and Relative Disparity Cues in Topographically Organized Areas of Human Visual Cortex. *Scientific Reports* 9:9308.
- 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* 9:3511.
- Alp, N, **Kohler**, PJ, Kogo, N, Wagemans, J and Norcia, AM (2018). Measuring Integration Processes in Visual Symmetry with Frequency-Tagged EEG. *Scientific Reports* 8:6969.
- 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, 200-218.
- Kohler**, PJ, Cottureau, 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 (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, Part A (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).
- 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 (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 (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**

- |          |   |
|----------|---|
| 2018 May | "Characterizing late-developing binocular motion mechanisms in human visual cortex"<br><i>Vision Sciences Society, St. Petersburg, FL</i> |
| 2017 May | "Neural responses to motion in 2 and 3 dimensions"<br><i>Vision Sciences Society, St. Petersburg, FL</i>                                  |
| 2015 May | "Parametric responses to rotation symmetry in mid-level visual cortex"<br><i>Vision Sciences Society, St. Petersburg, FL</i>              |
| 2012 May | "Neural correlates of perceptually bistable motion-based grouping"<br><i>Vision Sciences Society, Naples, FL</i>                          |

### **Invited Talks**

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

### **Posters**

- 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*.

## Peter J. Kohler, PhD

[pjkohler@yorku.ca](mailto:pjkohler@yorku.ca) | York University, Toronto | <http://pjkohler.github.io>

- 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, Cottureau, 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, Cottureau, 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.
- 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.

## Teaching

---

- PSYC 2240: Biological Bases of Behavior: Fall 2020

## Mentorship

---

- Supervisor: Rachel Moreau, MA-student, 2020-
- Co-supervisor: Raphael Gastrock, PhD-student, 2020-

## Peer Reviewer

---

*Journal of Neuroscience*  
*NeuroImage*  
*Neuropsychologia*  
*Frontiers of Psychology*  
*Communications Biology*  
*Brain Structure and Function*

*Perception*  
*3D Research*  
*Psychological Science*  
*Journal of Vision*  
*Vision Research*  
*Attention, Perception and Psychophysics*