

**Marc M. Himmelberg, BA, BPsych (Hons), PhD**

Department of Psychology  
New York University  
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New York, NY, 10003  
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**EDUCATION**

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PhD	2015- <b>Department of Psychology, University of York (UK)</b> 2019 PhD in Cognitive Neuroscience and Neuroimaging <i>Thesis:</i> Low-level visual processing and its relation to neurological disease <i>Supervisor:</i> Prof. Alex Wade
BPsych (Hons)	2012- <b>School of Psychology and Social Sciences, Western</b> 2014 <b>Sydney University (AU)</b> Bachelor of Psychology (Honours Class I), University Medal & APS Prize (GPA 6.58/7) <i>Thesis:</i> Adaptation to orientation regularity and its relation to orientation anisotropies within the visual system <i>Supervisor:</i> Dr Tamara Watson
BA	2008- <b>Faculty of Arts and Social Sciences, University of</b> 2010 <b>Sydney (AU)</b> Bachelor of Arts
High School	2001- <b>Trinity Grammar School, Summer Hill, Sydney (AU)</b> 2007 High School Certificate

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**RESEARCH EXPERIENCE**

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Oct 2019 – Current New York, USA	<b>New York University, Department of Psychology</b> Postdoctoral Research Associate <i>Advisors:</i> Prof. Jonathan Winawer and Prof. Marisa Carrasco
Oct 2015 - Oct 2018 York, UK	<b>University of York, Department of Psychology</b> (NextGenVis) Marie Skłodowska-Curie Early-Stage Research Fellow (PhD)
June 2018 - July 2018 Copenhagen, DK	<b>Lundbeck A/S, Drug and Research Discovery</b> Visiting Scholar <i>Host:</i> Dr Kenneth Vielsted Christensen
Nov 2017 - Feb 2018 Groningen, NL	<b>University Medical Centre Groningen (UMCG), Lab for Experimental Ophthalmology</b> Visiting Scholar <i>Host:</i> Prof. Frans Cornelissen

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## PEER-REVIEWED PUBLICATIONS

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- **Himmelberg, M.M.\***, Segala, F.G\*., Maloney, R.T., Harris, J.M. & Wade, A.R. (2020). Decoding neural responses to motion-in-depth using EEG, *Front. Neurosci*, 14:581706. doi:fnins.2020.581706
- **Himmelberg, M.M.**, Winawer, J. & Carrasco, M. (2020). Stimulus-dependent contrast sensitivity asymmetries around the visual field, *Journal of Vision*, 20(18). doi:10.1167/jov.20.9.18
- Østergaard, F.G., **Himmelberg, M.M.**, Laursen, B., Siebner, H.R., Wade, A.R. & Christensen, K.V. (2020). Classification of  $\alpha$ -synuclein-related changes in the AAV  $\alpha$ -synuclein rat model of Parkinson's disease using electrophysiological measurements of visual processing, *Scientific Reports*, 10. doi:10.1038/s41598-020-68808-3
- **Himmelberg, M.M.** & Wade, A.R. (2019). Eccentricity-dependent temporal contrast tuning in human visual cortex measured using fMRI, *NeuroImage*, 184, 462-474. doi:10.1016/j.neuroimage.2018.09.049
- **Himmelberg, M.M.**, West, R.J.H, Elliott, C.J.H. & Wade, A.R. (2018). Abnormal visual gain control & excitotoxicity in early-onset Parkinson's disease *Drosophila* models, *Journal of Neurophysiology*, 119(3), 957-970. doi:10.1152/jn.00681.2017
- **Himmelberg, M.M.**, West, R.J.H, Wade, A.R. & Elliott, C.J.H (2018). A perceptive plus in Parkinson's disease, *Movement Disorders*, 33(2), 248. doi:10.1002/mds.27240

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## PRE-PRINTS/IN-PREPARATION PUBLICATIONS

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- **Himmelberg, M.M.\***, Kurzawski, J.\*, Benson, N.C., Pelli, D.G., Carrasco, M. & Winawer, J. (2021). Cross-dataset reproducibility of human retinotopic maps. *bioRxiv*, doi:10.1101/2021.04.12.439348
- **Himmelberg, M.M.**, Gardner, J. & Winawer, J. (In prep). In praise of tedium: What has vision science taught us about functional fMRI?
- **Himmelberg, M.M.**, Carrasco, M.\* & Winawer, J.\* (In prep). Linking cortical magnification in human primary visual cortex to contrast sensitivity.
- Hanning, N.M., **Himmelberg, M.M.**, & Carrasco, M. (In prep). Presaccadic attention does not enhance contrast sensitivity at the upper vertical meridian.

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## CONFERENCE ABSTRACTS

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- **Himmelberg, M.M.**, Carrasco, M.\* & Winawer, J.\* (2021, Nov). Cortical magnification in human primary visual cortex correlates with contrast sensitivity. Presented at SFN 2021, Chicago, Illinois, USA (Poster).
- **Himmelberg, M.M.**, Carrasco, M.\* & Winawer, J.\* (2021, Aug). Cortical magnification in human V1 correlates with contrast sensitivity measurements around the visual field. Presented at ECVF online 2021 (Poster).

- **Himmelberg, M.M.**, Kurzawski, J., Benson, N.C., Pelli, D.G., Carrasco, M. & Winawer, J. (2021, May). Cross-dataset reproducibility of population receptive field estimates and retinotopic map structure. Presented at VSS (Poster).
- **Himmelberg, M.M.** & Wade, A.R. (2018, May). fMRI measurements of neural temporal contrast sensitivity across population receptive field eccentricity & size, *Journal of Vision*, 18(10), doi:10.1167/18.10.251. Presented at VSS, St. Pete's Beach, Florida, USA. (Poster)
- **Himmelberg, M.M.** & Wade, A.R. (2017, Oct). Measuring temporal contrast sensitivity across the visual field & visual cortex using fMRI, *Journal of Vision*, 17(15), doi:10.1167/17.15.18. Presented at OSA Fall Vision Meeting, Washington D.C, USA. (Talk)

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### FUNDING and GRANTS

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2019	Helmsley Interdisciplinary Fellowship to attend <i>CSHL: Vision</i> (\$1500 USD)
2018	EUROGRANT Business Start-Up Grant for 'classiFLY' (\$2275 USD)
2015-2018	Marie Skłodowska-Curie Actions ( <i>MSCA</i> ) PhD Fellowship for Training the Next Generation of Visual Neuroscientists ( <i>NextGenVis</i> ) (\$203,613 USD)

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### OTHER TALKS and POSTERS

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2019	<i>Using vision to study Parkinson's disease</i> . Centre for Future Health Research Impact Conference, University of York (authors: Himmelberg, M.M & Wade, A.R.), March 2019 (Poster)
2019	<i>Using fMRI and electrophysiology to investigate low-level visual processing, and its relation to human disease</i> . NextGenVis Dissemination Conference, University of Pisa, (author: Himmelberg, M.M.), February 2019 (Talk)
2018	<i>Measuring S-cone and luminance defined population receptive field (pRF) sizes across cortical depth using 7T fMRI</i> . Hebrew University of Jerusalem, Israel, (author: Himmelberg, M.M.), March 2018 (Talk)
2018	<i>Psychophysical temporal contrast sensitivity across the visual field</i> , York Neuroscience Symposium, UK, (authors: Himmelberg, M.M & Wade, A.R.), March 2018 (Talk)
2017	<i>Support vector machine classification of Parkinson's disease rodent models using chromatic SSVEP responses</i> . Lundbeck A/S, Copenhagen, Denmark, (authors: Himmelberg, M.M, Østergaard, F.G., Wade, A.R., & Christensen, K.V.) November 2017 (Poster)
2017	<i>Applying machine learning to visual functioning as a diagnostic tool in Drosophila Parkinson's disease models</i> . Postgraduate Research Symposium, University of York, UK, (authors: Himmelberg, M.M, West, R.J.H, Elliott, C.J.H, & Wade, A.R.), July 2017 (Talk)

- 2017 *Temporal contrast sensitivity profiles as a genetic biomarker for Parkinson's disease*. Maastricht University, NL, (authors: Himmelberg, M.M, West, R.J.H, Elliott, C.J.H, & Wade, A.R.), May 2017 (Talk)
- 2014 *Orientation anisotropy of the visual system does not affect adaptation to orientation regularity*. Western Sydney University Psychology Symposium, Sydney, Australia, (authors: Himmelberg, M.M & Watson, T.), September 2014 (Talk)

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## TEACHING

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- 2016-2019 **University of York, Department of Psychology**  
Graduate Teaching Assistant
- Natural Sciences: Perception (undergraduate)
  - Research Design and Statistics (undergraduate)
  - Perception and Cognition (undergraduate)
- 2017 **York NeuroImaging Centre, The Biocentre**  
Courses developed and taught
- Vistasoft retinotopic mapping workshop (3 days)

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## AWARDS and HONOURS

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- 2014 **Australian Psychological Society (APS)**  
APS Prize for gaining first place ranking within BPsych (Hons)
- 2014 **Western Sydney University**  
University Medal for Outstanding Scholarship
- 2012, 2014 **Western Sydney University**  
Deans Merit List for Psychology

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## RESEARCH SKILLS

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- MRI/fMRI Analysis
- MATLAB:
  - Psychtoolbox
  - Signal processing
  - EEG/ERG recording & analysis in human & animal models
  - Machine learning (LIBSVM)
- Python
- Operator trained on 3T (GE and Siemens) and 7T (Phillips) MRI scanners
- asa for EEG and MEG analysis
- R for statistics & data visualization
- SPSS for statistics
- *Drosophila* genetic mating schemes & maintenance
- Spike2 for rodent electrophysiology

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**WORKSHOPS and SCIENTIFIC TRAINING**

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- 2019      **Cold Spring Harbor Laboratory, NY, USA**  
Vision: Linking Circuits, Perception, and Behavior course (2 weeks)
- 2018      **Bangor University, Wales, UK**  
Visceral minds neuroanatomy course (1 week)
- 2018      **Hadassah Medical Centre, Jerusalem, ISR**  
Scientific Grant Writing (3 days)
- 2017      **Maastricht University, Maastricht, NL**  
BrainVoyager: Advanced Brain Imaging and Analysis (2 days)
- 2017      **Phillips Research Global Headquarters, Eindhoven, NL**  
EUROGRANT Scientific Entrepreneurial Course (5 days)
- 2015      **Utrecht University, Utrecht, NL**  
pRF Model Development (3 days)
- 2015      **University of York, York, UK**  
MATLAB: Psychtoolbox (2 days)

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**DEPARTMENTAL and COMMITTEE SERVICE**

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- 2015-  
2019      **NextGenVis Innovative Training Network**  
Junior Research Board Representative
- 2016-  
2018      **University of York, Department of Psychology**  
PhD Student Representative (Years 2 and 3)
- 2016-  
2019      **University of York, Department of Psychology**  
Early Career Researchers (ECR) Committee
- 2016      **University of York, Department of Psychology**  
Symposium Organizer, *Computational Modelling of the Visual System*,  
(Kings Manor, York)

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**AD HOC REVIEWER for**

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- Brain Structure and Function, Journal of Vision, MethodsX, PLOS Computational Biology, Neuropsychologica

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**SOCIETY MEMBERSHIP**

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- Vision Sciences Society, Society for Neuroscience

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**OTHER**

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Website: <http://marchimmelberg.com>

Twitter: @marchimmelberg