

Curriculum Vitae

Name: **Marieke Mur**

Current position: **Assistant Professor**
Department of Psychology
Department of Computer Science
Brain and Mind Institute
Western University

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Academic positions

2019 – to date **Assistant Professor**, Western University, Canada

2015 – 2018 **Research Fellow**, Darwin College, University of Cambridge, UK

2011 – 2018 **Postdoctoral Research Fellow**, MRC Cognition and Brain Sciences Unit (CBU), University of Cambridge, UK
Advisors: N Kriegeskorte, J Duncan
Supported by British Academy and Rubicon Postdoctoral Fellowships

Education

2006 – 2011 **PhD in Cognitive Neuroscience**, Maastricht University, Netherlands
“High-level visual object representations in inferior temporal cortex”
Advisors: P de Weerd, R Goebel

2006 – 2008 Pre-doc visiting fellow, Section of Functional Imaging Methods at the National Institutes of Health (NIH), Graduate Partnerships Program (GPP), Bethesda MD, USA
Advisors: N Kriegeskorte, P Bandettini

2004 – 2006 **MSc in Cognitive Neuroscience**, Maastricht University, Netherlands

2001 – 2004 **BSc in Psychology**, Maastricht University, Netherlands

Awards and scholarships

2019	NSERC Discovery Grant (\$ 190.000)
2019	NSERC Discovery Early Career Researcher Launch Supplement (\$ 12.500)
2015	Schlumberger Research Fellow, Darwin College, University of Cambridge
2015	British Academy Postdoctoral Fellowship (£ 185.772)
2011	NWO Rubicon Postdoctoral Fellowship (€ 147.697)
2011	Universiteitsfonds Limburg/SWOL Research & Education grant (€ 2000)
2009	Vision Sciences Society Student Travel Award (\$ 500)
2007	NIH GPP Travel Award (\$ 1000)
2006	NIH Intramural Research Training Award (\$ 66.748)
2006	MSc Thesis Award, Maastricht University (€ 500)
2006	MSc awarded cum laude, Maastricht University

Teaching

2019 – to date	Instructor of graduate course on neural networks (PSY 9221B), Western University
2012 – to date	Supervision of bachelor, master, and PhD candidates in the fields of cognitive and computational neuroscience
2015 – 2017	Undergraduate workshops on functional magnetic resonance imaging (fMRI), University of Cambridge
2014 – 2017	Graduate workshops on fMRI pattern-information analysis , CBU
2014	Two-day workshop on fMRI pattern analysis, University of Granada
2009 – 2011	Lectures on object perception and neuroimaging methods , Maastricht University
2003 – 2011	Tutor and mentor of (under)graduate students of psychology, including the following subjects: perception, memory, cognition, statistics, computer programming, scientific writing, philosophy of science
2007	Co-organiser of NIH FAES course on medical imaging methods, NIH

Academic activities

2009 – to date	Expert reviewer for Science, eLife, Journal of Neuroscience, Neuroimage, Cerebral Cortex, Human Brain Mapping, Social Cognitive and Affective Neuroscience, Language Cognition and Neuroscience, PLoS One, Biological Psychology
2006 – to date	Member of Society for Neuroscience, Vision Sciences Society, Organization for Human Brain Mapping, Cognitive Neuroscience Society
2014	Co-organiser of the Cambridge Pint of Science event (public engagement)
2011	Organiser and chair of international mini symposium “Imaging of high-level object representations in the primate brain”, Maastricht University
2009 – 2011	Academic staff member of the University Council , Maastricht University
2006 – 2008	Member of several committees of the Graduate Student Council of the GPP, including the academic committee and the annual symposium-organising committee
2004	Chair of the Student Council , Faculty of Psychology and Neuroscience, Maastricht University

Publications

Journal articles

1. **Mur** M, Mitchell DJ, Brüggemann S, Duncan J (in revision). Stimulus effects dwarf task effects in human visual cortex. *The Journal of Neuroscience*
2. Basti A, **Mur** M, Kriegeskorte N, Pizella V, Marzetti L, Hauk O (in revision). Analysing linear multivariate pattern transformations in neuroimaging data. *PLoS Computational Biology*
3. Henriksson L, **Mur** M, Kriegeskorte N (2019). Rapid invariant encoding of scene layout in human OPA. *Neuron* doi: <https://doi.org/10.1016/j.neuron.2019.04.014>
4. Schmitz TW, **Mur** M, Aghourian M, Bédard M-A, Spreng RN (2018). Longitudinal Alzheimer's degeneration reflects the spatial topography of cholinergic basal forebrain projections. *Cell Reports* 24: 38-46.
5. Guo Y, Schmitz TW, **Mur** M, Ferreira CS, Anderson MC (2018). A supramodal role of the basal ganglia in memory and motor inhibition: Meta-analytic evidence. *Neuropsychologia* 108: 117-134.
6. Jozwik K, Kriegeskorte N, Storrs K, **Mur** M (2017). Deep convolutional neural networks outperform feature-based but not categorical models in explaining object similarity judgments. *Frontiers in Psychology* doi: 10.3389/fpsyg.2017.01726
7. Pelekanos V, **Mur** M, Storrs KR. (2016). Extracting object identity: Ventral or dorsal visual stream? *The Journal of Neuroscience* 36: 6368-6370.
8. Jozwik K, Kriegeskorte N, **Mur** M (2016). Visual features as stepping stones toward semantics: Explaining object similarity in IT and perception with non-negative least squares. *Neuropsychologia* 15: 30199-30208.
9. Henriksson L, **Mur** M, Kriegeskorte N (2015). Faciotopy – a face-feature map with face-like topology in the human occipital face area. *Cortex* 72: 156-167.
10. **Mur** M, Kriegeskorte N (2014). What's there, distinctly, when and where? *Nature Neuroscience* 17: 332-333, commentary.
11. **Mur** M (2014). What's the difference between a tiger and a cat? From visual object to semantic concept via the perirhinal cortex. *The Journal of Neuroscience* 34: 10462-10464, commentary.
12. **Mur** M, Meys M, Bodurka J, Goebel R, Bandettini PA, Kriegeskorte N (2013). Human object-similarity judgments reflect and transcend the primate-IT object representation. *Frontiers in Psychology* doi: 10.3389/fpsyg.2013.00128
13. Liu N, Kriegeskorte N, **Mur** M, Hadj-Bouziane F, Luh WM, Tootell RBH, Ungerleider L (2013). Intrinsic structure of visual exemplar and category representations in the macaque brain. *The Journal of Neuroscience* 33: 11346-11360.
14. Goffaux V, Schiltz C, **Mur** M, Goebel R (2013). Local discriminability determines the strength of holistic processing for faces in the fusiform face area. *Frontiers in Psychology* doi: 10.3389/fpsyg.2012.00604

15. **Mur M**, Ruff DA, Bodurka J, De Weerd P, Bandettini PA, Kriegeskorte N (2012). Categorical, yet graded – single-image activation profiles of human category-selective cortical regions. *The Journal of Neuroscience* 32: 8649-8662.
16. Kriegeskorte N, **Mur M** (2012). Inverse MDS: Inferring dissimilarity structure from multiple item arrangements. *Frontiers in Psychology* doi: 10.3389/fpsyg.2012.00245
17. **Mur M**, Ruff DA, Bodurka J, Bandettini PA, Kriegeskorte N (2010). Face-identity change activation outside the face system: “Release from adaptation” may not always indicate neuronal selectivity. *Cerebral Cortex* 20:2027-2042.
18. **Mur M**, Bandettini PA, Kriegeskorte N (2009). Revealing representational content with pattern-information fMRI – an introductory guide. *Social Cognitive and Affective Neuroscience* doi:10.1093/scan/nsn044
19. Kriegeskorte N, **Mur M**, Ruff DA, Kiani R, Bodurka J, Esteky H, Tanaka K, Bandettini PA (2008). Matching categorical object representations in inferior temporal cortex of man and monkey. *Neuron* 60:1126-1141.
20. Kriegeskorte N, **Mur M**, Bandettini P (2008). Representational similarity analysis – a general framework for relating computational theory and modalities of brain-activity measurement. *Frontiers in Systems Neuroscience* doi:10.3389/neuro.06.004.2008

Book chapters

1. **Mur M**, Kriegeskorte N (2012). Tutorial on pattern classification in functional imaging. In: Kriegeskorte N, Kreiman G (eds.) *Visual population codes: toward a common multivariate framework for cell recording and functional imaging*. The MIT Press, Cambridge MA, USA
2. Kriegeskorte N, **Mur M** (2012). Representational similarity analysis of object population codes in humans, monkeys, and models. In: Kriegeskorte N, Kreiman G (eds.) *Visual population codes: toward a common multivariate framework for cell recording and functional imaging*. The MIT Press, Cambridge MA, USA
3. **Mur M** (2011) High-level visual object representations in inferior temporal cortex. *PhD thesis*. ISBN 9789461590985. Universitaire Pers Maastricht, Maastricht, Netherlands

Selected conference publications

1. Jozwik K, Kriegeskorte N, Cichy RM, **Mur M** (2018). Deep convolutional neural networks, features, and categories perform similarly at explaining primate high-level visual representations. *Cognitive Computational Neuroscience Conference Proceedings*
Paper, refereed
2. **Mur M**, Borowski J, Kriegeskorte N (2017). Functional readout analysis reveals nonlinear representational transformation from early visual to category-selective regions. *Journal of Vision*
Abstract, non-refereed
3. **Mur M**, Bell A, Malecek NJ, Morin EL, Duncan J, Kriegeskorte N (2016). Representational dynamics: the temporal evolution of neural population coding in nonhuman primate inferior temporal cortex. *Journal of Vision*

Abstract, non-refereed

4. Jozwik KM, Kriegeskorte N, Cichy RM, **Mur** M (2016). Visual features versus categories: explaining Object representations in primate IT and deep neural networks with weighted representational modeling. *Journal of Vision*
Abstract, non-refereed
5. **Mur** M, Meys M, Bodurka J, Bandettini P, Kriegeskorte (2009). Relating neural object representations to perceptual judgments with representational similarity analysis. *Journal of Vision*
Abstract, non-refereed
6. **Mur** M, Ruff D, Bodurka J, Bandettini P, Kriegeskorte N (2008). Ranking 96 object images by their activation of FFA. *Journal of Vision*
Abstract, non-refereed
7. Broers NJ, **Mur** MC, Bude L (2005). Directed self-explanation in the study of statistics. *International Association for Statistical Education Roundtable Conference Proceedings*
Paper, refereed

Selected presentations

Conference presentations

1. Berlot E, **Mur** M, Diedrichsen J (2019). Representational connectivity: comparing the sensitivity of connectivity metrics to noise. *Organization for Human Brain Mapping Annual Meeting* (Rome, Italy)
2. **Mur** M, Bell A, Malecek NJ, Morin EL, Duncan J, Kriegeskorte N (2017). Representational dynamics: the temporal evolution of neural population coding in nonhuman primate inferior temporal cortex. *Cognitive Computational Neuroscience Annual Meeting* (New York NY, USA)
3. **Mur** M, Mitchell DJ, Brüggemann S, Duncan J (2017). Stimulus effects dwarf task effects in visual regions. *Society for Neuroscience Annual Meeting* (Washington DC, USA)
4. Jozwik KM, Kriegeskorte N, Cichy RM, **Mur** M (2016). Representation of visual features and categories across space and time in human, monkey, and convolutional neural networks. *Society for Neuroscience Annual Meeting* (San Diego CA, USA)
5. Jozwik KM, Kriegeskorte N, **Mur** M (2016). Explaining high-level object representations with weighted representational modelling. *Organization for Human Brain Mapping Annual Meeting* (Geneva, Switzerland)
6. Jozwik KM, Kriegeskorte N, **Mur** M (2015). Object representations in human inferior temporal cortex: categorical or feature-based? *Society for Neuroscience Annual Meeting* (Chicago IL, USA)
7. **Mur** M, Brüggemann S, Duncan J (2013). Flexible coding of visual objects in human visual and multiple-demand cortex. *Society for Neuroscience Annual Meeting* (San Diego CA, USA)
8. **Mur** M, Meys M, Bodurka J, Bandettini P, Kriegeskorte N (2011). Relating neural object representations to perceptual judgments with representational similarity analysis. *Dartmouth Neural Computation Workshop* (Hanover NH, USA)

Invited talks

1. (2019). Analysing representational connectivity between brain regions. *Kavli Summer Institute in Cognitive Neuroscience* (Santa Barbara CA, USA)
2. (2019). Modelling representational dynamics in nonhuman primate high-level visual cortex. *Computational and Systems Neuroscience Annual Meeting* (Lisbon, Portugal)
3. (2018). From vision to adaptive behaviour: population coding across the cortical hierarchy. *Brain and Mind Institute, Western University* (London ON, Canada)
4. (2017). Modelling high-level object representations in brain and behaviour. *Donders Institute for Brain, Cognition and Behaviour, Radboud University* (Nijmegen, Netherlands)
5. (2015). Visual features as stepping stones toward semantics. *Department of Psychology and Neuroscience, Maastricht University* (Maastricht, Netherlands)
6. (2015). Weighted representational modelling. *CBU, University of Cambridge* (Cambridge, UK)
7. (2014). Representational similarity analysis: applications in fMRI and MEG. *Johann Wolfgang Goethe Universität* (Frankfurt, Germany)
8. (2012). High-level visual object representations in inferior temporal cortex. *Center for Magnetic Resonance Research, University of Minnesota* (Minneapolis MN, USA)