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Research and Professional Experience

06/2021 – today

Postdoctoral Research Fellow

Department of Experimental Psychology, Universiteit Gent, Belgium
Berlin School of Mind and Brain, Department of Psychology, Humboldt-Universität zu Berlin, Germany

Research group leader

Prof. Marcel Brass

Research Focus

- Neural coding of task-related information under varying task demands, using computational modelling and multivariate pattern analysis of fMRI data.
- Free will beliefs and attitudes

Administrative tasks and supervision

- Supervision of bachelor, master and PhD projects
- Development / implementation of data archiving policy for research group
- Organizing visits for international guests

Lecturing

- 'Introduction to Neuroimaging' (Co-lecturer with Prof. Ruth Krebs): Introduction to fMRI and TMS methods for BSc students.
- 'Topics in Experimental Psychology' (Guest-lecturer with Prof. Nico Boehler): Introduction to multivariate fMRI analysis methods for MSc student

06/2017 – 05/2021

FWO [PEGASUS]² Marie Skłodowska-Curie Fellow

Department of Experimental Psychology, Universiteit Gent, Belgium

Research group leader

Prof. Marcel Brass

Research Focus

- Interaction of intentional and motivational control processes using computational modelling and multivariate pattern analysis of fMRI data.

05/2016 – 05/2017

Postdoctoral Research Fellow

Department of Experimental Psychology, Universiteit Gent, Belgium

Research group leader

Prof. Marcel Brass

Research Focus

- Effects of high-level cognitive processes, such as instructions, onto low-level fear learning mechanisms, using fMRI and psychophysiological measures.

10/2008 – 04/2016

PhD Fellow

Bernstein Center for Computational Neuroscience, Berlin, Germany
SFB940 'Volition and Cognitive Control' Technische Universität Dresden, Germany

Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, Germany

Thesis Topic

The neural correlates of intentional control: Motivational effects and functional organization, Grade: summa cum laude

Supervisor

Prof. John-Dylan Haynes

Research Focus

- Interaction of motivational and intentional control processes in the brain and the functional architecture of the intentional control network, using multivariate pattern analysis of fMRI data.

Administrative tasks and supervision

- Supervision of student assistants, lab rotations, master and PhD projects
- Organizing visits for international guests

Publications

2021

Wisniewski D, Cracco E, González-García C, Brass M (in principle acceptance). Relating free will beliefs and attitudes. Registered report, *Royal Society Open Science*.
[\[ApprovedProtocol\]](#)

Genschow O, Cracco E, Schneider J, Protzko J, **Wisniewski D**, Brass M, Schooler J (2021) Manipulating belief in free will and its downstream consequences: A meta-analysis *PsyArXiv*
doi:10.31234/osf.io/quwgr
[\[Preprint\]](#)

González-García C, Formica S, **Wisniewski D**, Brass M (2021) Frontoparietal action-oriented codes support novel task set implementation *NeuroImage*,
doi:doi.org/10.1016/j.neuroimage.2020.117608
[\[FullText\]](#)

2020

Liu X, Vermeylen L, **Wisniewski D**, Brysbaert M (2020) The contribution of phonological information to visual word recognition: Evidence from Chinese Phonetic Radicals *Cortex*
doi:10.1016/j.cortex.2020.09.010
[\[Abstract\]](#)

Vermeylen L, **Wisniewski D**, González-García C, Hoofs V, Notebaert W, Braem S (2020) Shared Neural Representations of Cognitive Conflict and Negative Affect in the Dorsal Anterior Cingulate Cortex, *The Journal of Neuroscience*, doi: 10.1523/JNEUROSCI.1744-20.2020
[\[Abstract\]](#)

Kostandyan M, Park HRP, Bundt C, González-García C, **Wisniewski D**, Krebs RM, Boehler CN (2020) Are all behavioral reward benefits created equally? An EEG-fMRI study *Neuroimage* doi:10.1016/j.neuroimage.2020.116829

[\[FullText\]](#)

Van der Biest M, Cracco E, **Wisniewski D**, Brass M, González-García C (2020) Investigating the effect of trustworthiness on instruction-based reflexivity *Acta Psychologica*, doi:10.1016/j.actpsy.2020.103085

[\[Abstract\]](#)

Botvinick-Nezer R, Holzmeister F, Camerer CF ... **Wisniewski D** ... Nichols TE, Poldrack RA, Schonberg T (2020) Variability in the analysis of a single neuroimaging dataset by many teams, *Nature*, doi:10.1038/s41586-020-2314-9

[\[Abstract\]](#)

Cracco E, González-García C, Hussey I, Braem S, **Wisniewski D** (2020) Cultural pressure and biased responding in free will attitudes *Royal Society Open Science* doi:10.1098/rsos.191824

[\[FullText\]](#)

2019

Wisniewski D, Forstmann B, Brass M (2019) Outcome contingency selectively affects the neural coding of outcomes but not of tasks, *Scientific Reports*, doi:10.1038/s41598-019-55887-0

[\[FullText\]](#) [\[Data\]](#)

Wisniewski D, Deutschländer R, Haynes JD (2019) Free will beliefs are better predicted by dualism than determinism beliefs across different cultures. *PLoS ONE*, doi:10.1371/journal.pone.0221617

[\[FullText\]](#) [\[Data+Code\]](#)

2018

Kruschwitz J, Ludwig V, Waller L, List D, **Wisniewski D**, Wolfensteller U, Goschke T, Walter H (2018) Regulating Craving by Anticipating Positive and Negative Outcomes: A Multivariate Pattern Analysis and Network Connectivity Approach, *Frontiers in Behavioral Neuroscience*, doi: 10.3389/fnbeh.2018.00297

[\[FullText\]](#)

Wisniewski D (2018) Context-Dependence and Context-Invariance in the Neural Coding of Intentional Action, *Frontiers in Psychology*, doi.org/10.3389/fpsyg.2018.02310

[\[FullText\]](#)

Kruschwitz J, Waller L, List D, **Wisniewski D**, Ludwig V, Korb F, Wolfensteller U, Goschke T, Walter H (2018) Anticipating the good and the bad: A study on the neural correlates of bivalent emotion anticipation and their malleability via attentional deployment, *NeuroImage*, 183: 553-564

[\[Abstract\]](#)

Langerock N, **Wisniewski D**, Brass M, Vergauwe E (2018) An examination of refreshing in between-category sequences, *Annals of the New York Academy of Sciences*, doi:10.1111/nyas.1370

[\[Abstract\]](#)

2017

Loose L*, **Wisniewski D***, Goschke T, Haynes JD. (2017) Switch independent task representations in frontal and parietal cortex, *Journal of Neuroscience*, 37: 8033-8042

Preprint available here: *bioRxiv* doi:10.1101/138230

[\[Abstract\]](#)

2016

Wisniewski D, Goschke T, Haynes JD. (2016) Similar Coding of Freely Chosen and Externally Cued Intentions in a Fronto-Parietal Network. *NeuroImage*, 134: 450-58

[\[Abstract\]](#)

Wisniewski D. (2016) The neural correlates of intentional control: Motivational effects and functional organization. Doctoral thesis at Humboldt-Universität zu Berlin, Germany

[\[Full Text\]](#)

2015

Wisniewski D, Reverberi D, Momennejad I, Kahnt T, Haynes JD. (2015) The Role of the Parietal Cortex in the Representation of Task–Reward Associations. *The Journal of Neuroscience*, 35: 12355–65

[\[Abstract\]](#)

Wisniewski D*, Reverberi C*, Tusche A, Haynes JD. (2015) The Neural Representation of Voluntary Task-Set Selection in Dynamic Environments. *Cerebral Cortex*, 25: 4715-26

[\[Abstract\]](#)

2013

Tusche A, Kahnt T, **Wisniewski D**, Haynes JD. (2013) Automatic Processing of Political Preferences in the Human Brain. *NeuroImage*, 72: 174–82

[\[Abstract\]](#)

*=these authors contributed equally

Workshops

2018 Multivariate decoding workshop at the Department of Experimental Psychology of Ghent University (organization and teaching)

Service to the Field

Ad-hoc reviewer for Acta Psychologica, Cerebral Cortex, Cognitive Affective & Behavioral Neuroscience, Consciousness and Cognition, NeuroImage, Neuropsychologia, Neuroscience of Consciousness, The Journal of Neuroscience, PLOS Computational Biology

Grants

2021 – 2024	Postdoctoral Research Grant, Special Research Fund Ghent University (200.000€)
2019 – 2021	Research Foundation Flanders (FWO) Research Grant (39.630€)
2017 – 2021	Incoming [PEGASUS] ² Marie-Skłodowska-Curie Grant of the Research Foundation – Flanders and the European Union’s Horizon 2020 research and innovation program (160.000€).

Education

10/2002 – 10/2008	Student Humboldt-Universität zu Berlin, Germany Study Focus Diploma in Psychology (equivalent to MSc), Grade: 1.3 (excellent) Thesis topic: Cognitive Control in Eriksen Flanker Tasks, investigated using EEG and dipole source localization
09/2006 – 03/2007	Student University of Glasgow, UK (ERASMUS exchange) Study Focus EEG data analysis using dipole source localization
09/2007 – 06/2008	Student Assistant Max Planck Institute for Human Development, Berlin Center for Adaptive Behavior and Cognition Prof. Gigerenzer, Dr. Scheibehenne, Dr. Mata Work Focus Behavioral experimental design and programming
12/2004 – 12/2007	Student Assistant Department of Psychology, Humboldt-Universität zu Berlin Biological Psychology Group Prof. Sommer and Prof. Abdel-Rahman Work Focus EEG experimental design, programming, data acquisition and analysis

Scholarships and Awards

ERASMUS exchange scholarship
Max Planck PhD scholarship
Mind and Brain PhD scholarship
Poster Prize of the Berlin School of Mind and Brain, 2010

Public Outreach

Science Day, Universiteit Gent, 2020 [\[link\]](#)
Falling Walls Lab, Brussels, 2017 [\[link\]](#)
Science is Wonder-ful! Public science event organized by the Marie-Skłodowska-Curie
Actions of the European Commission, 2017 [\[link\]](#)

Conference Session Chairs

2018 Nanosymposium Human Cognition and Behavior: Human Learning: Feedback,
Reinforcement and Reward [\[link\]](#)

Conference Talks

2021 Adaptive coding of task-relevant information in the multiple demand network: a
representational geometry approach, European Neuroscience Conference by Doctoral
Students 2021, Online [\[link\]](#)
2021 Context-dependence of task representations in fronto-parietal cortex, Psychologie und
Gehirn 2021, Tübingen, Germany [\[link\]](#)
2020 Towards a deeper understanding of lay beliefs in free will, Neuroscience, Law &
Psychology, Istanbul, Turkey
2018 Outcome contingency modulates reward coding but not task coding in the brain,
Neuroscience 2018, San Diego, USA [\[link\]](#)
2017 Neural task representations during voluntary task switching, ESCOP, Potsdam [\[link\]](#)
2016 Using MVPA to identify the functional organization of the cognitive control network,
NeuroCog2016, Leuven, Belgium [\[link\]](#)
2012 Predicting decisions in a dynamically changing environment from activation patterns in
the dorso-medial prefrontal cortex, *2nd Einstein Fellowship Symposium on 'Decision-
making'*, Berlin, Germany [\[link\]](#)

Conference Poster Presentations

2019 7th International Symposium on Motivation and Cognitive Control, Berlin, Germany
2017 Instruction-based and experience-dependent fear memories during fear reversal, 13th
International conference for cognitive neuroscience, Amsterdam, Netherlands
2014 The role of parietal cortex in the representation of task-reward-associations, Annual
Meeting of the Society for Neuroscience, Washington DC, USA
2014 The neural basis of task-reward associations, Neuronus IBRO & IRUN Neuroscience
Forum, Krakow, Poland
2013 The neural basis of task-reward associations, Annual Meeting of the Organization for
Human Brain Mapping, Seattle, USA
2011 Self-regulation of tasks under dynamic conditions, Interdisciplinary College on
'Autonomy, Decisions, and Free Will', Günne, Germany
2011 Self-regulation of tasks under dynamic conditions, Cognitive Neuroscience Society
Meeting, San Francisco, USA
2010 The neural correlates of self-regulated behavior, Annual Meeting of the Society for
Neuroscience, San Diego, USA

Invited Talks

- 2020 Flexibility vs stability in the neural coding of tasks, School of Psychology, Prof. Zhang, *Cardiff University*
- 2019 Sharing and reusing code for experimental cognitive neuroscience, *Ghent University*
- 2015 The functional organization of the intentional control network, Department of Experimental Psychology, Prof. Brass, *Ghent University*
- 2014 The neural basis of intentional and motivational control of behavior, Princeton Neuroscience Institute, Prof. Botvinick and Prof. Cohen, *Princeton University*, NJ, USA
- 2014 The role of parietal cortex in the representation of task-reward-associations, Junior Research Group 'Decision-making in obesity: neurobiology, behavior & plasticity', Dr. Horstmann, *Max Planck Institute for Human Cognitive and Brain Sciences*, Leipzig
- 2013 The role of parietal cortex in the representation of task-reward-associations, Biological Psychology and Cognitive Neuroscience, Prof. Heekeren, *Freie Universität*, Berlin
- 2013 The neural code of voluntary task-set selection in dynamic environments, Center for Adaptive Rationality, Dr. Mata, *Max Planck Institute for Human Development*, Berlin
- 2012 The neural code of voluntary task-set selection in dynamic environments, Department of Psychology, Prof. Leuthold, *Universität Tübingen*
- 2012 The neural code of voluntary task-set selection in dynamic environments, Department of Experimental Psychology, Prof. Brass, *Ghent University*
- 2011 The neural code of voluntary task-set selection in dynamic environments, Graduate School of Systemic Neurosciences, *Ludwig-Maximilians-Universität*, München

Key Skills

Design, conduction, analysis of fMRI and behavioral experiments
Univariate and multivariate pattern analysis of fMRI data
Computational modelling of behavioral data
Coding in R, Matlab, and Python
Project management