

**Birthdate:** 29.11.1982  
**Address:** Henri Dunantlaan 2  
9000 Gent  
Belgium  
**E-Mail:** david.wisniewski@ugent.be  
**Website:** davidwisniewski.github.io  
**Twitter** @wisneurowski

## 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]<sup>2</sup> 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**, González-García C, Formica S, Woolgar A, Brass M (2021) Adaptive coding of stimulus information in human fronto-parietal cortex during visual classification *bioRxiv*  
doi:10.1101/2021.11.22.469511

[\[Preprint\]](#)

Liu X, **Wisniewski D**, Vermeylen L, Palenciano, AF, Liu W, Brysbaert M (2021) The representations of Chinese characters: evidence from sub-lexical components *The Journal of Neuroscience*  
doi:10.1523/JNEUROSCI.1057-21.2021

[\[Abstract\]](#)

**Wisniewski D**, Rigoni D, Vermeylen L, Braem S, Abrahamse E, Brass M (in principle acceptance of a stage 1 registered report) The impact of free will beliefs on implicit learning. *Consciousness and Cognition*

[\[ApprovedProtocol\]](#)

Taubner S, Hauschild S, **Wisniewski D**, Wolter S, Roth G, Fehr T (2021) Neural Response to Aggressive and Positive Interactions in Violent Offenders *Brain and Behavior*,  
doi:10.1002/brb3.2400

[\[FullText\]](#)

**Wisniewski D**, Cracco E, González-García C, Brass M (in principle acceptance, stage 2 under review). 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, Philosophical Psychology, PLOS Computational Biology

## Acquired 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]<sup>2</sup> 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 7<sup>th</sup> International Symposium on Motivation and Cognitive Control, Berlin, Germany
- 2017 Instruction-based and experience-dependent fear memories during fear reversal, 13<sup>th</sup> 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

- 2021 Adaptive coding of stimulus information in fronto-parietal cortex, Dr. González García, *University of Granada*
- 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