

Kate Ergo

Curriculum Vitae

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Email: kate.ergo@ugent.be

Website: kateergo.github.io

Google Scholar Profile: [shorturl.at/mnqV3](https://scholar.google.com/shorturl.at/mnqV3)

ORCID: <https://orcid.org/0000-0003-3714-0325>

Twitter: @KateErgo

Department of Experimental Psychology
Henri Dunantlaan 2
9000 Ghent
Belgium

Cell: +32498717138

Education

PhD 2016 – 2021	Experimental Psychology, Ghent University, Belgium Thesis: <i>Reward and reward prediction error in declarative memory</i> Promotor: Prof. Dr. Tom Verguts & Co-promotor: Prof. Dr. Durk Talsma
MSc 2014 – 2016	Theoretical and Experimental Psychology, Ghent University, Belgium Thesis: <i>The role of reward prediction errors in declarative memory: An EEG time-frequency study</i> Grade: <i>Summa Cum Laude</i>
BSc 2011 – 2014	Theoretical and Experimental Psychology, Ghent University, Belgium Grade: <i>Cum Laude</i>

Research Experience

06/2021 – 09/2021	Scientific researcher, Ghent University, Belgium Project: <i>Reward and reward prediction error in declarative memory</i> Supervisors: Prof. Dr. Tom Verguts & Prof. Dr. Durk Talsma
07/2016 – 09/2016	Volunteer research assistant, Ghent University, Belgium Project: <i>The impact of non-optimal decision-making on addiction predisposition: An EEG time-frequency investigation</i> Supervisor: Dr. Massimo Silvetti
09/2015 – 03/2016	Research intern, Ghent University, Belgium Project: <i>The impact of non-optimal decision-making on addiction predisposition: An EEG time-frequency investigation</i> Supervisors: Dr. Massimo Silvetti, Prof. Dr. Davide Rigoni & Prof. Dr. Eliana Vassena

Research Grants

- 01/2020 International mobility grant, € 3234.00
Fonds Wetenschappelijk Onderzoek (FWO)
- 10/2017 – 09/2021 PhD Fellowship fundamental research
Fonds Wetenschappelijk Onderzoek (FWO)

Publications *(reverse chronological order)*

h-index: 4 (Google Scholar)

total N° of citations: 65 (Google scholar)

1. **Ergo, K.**, De Vilder, L., De Loof, E., & Verguts, T. (2021). Reward prediction errors drive declarative learning irrespective of agency. *Psychonomic Bulletin & Review*.
<https://doi.org/10.3758/s13423-021-01952-7>
2. Calderon, C. B., De Loof, E., **Ergo, K.**, Snoeck, A., Boehler, C. N., & Verguts, T. (2021). Signed reward prediction errors in the ventral striatum drive episodic memory. *Journal of Neuroscience*, 41(8), 1716–1726. <https://doi.org/10.1523/JNEUROSCI.1785-20.2020>
3. Verbeke, P., **Ergo, K.**, De Loof, E., & Verguts, T. (2021). Learning to synchronize: Midfrontal theta dynamics during rule switching. *Journal of Neuroscience*, 41(7), 1516–1528. <https://doi.org/10.1523/JNEUROSCI.1874-20.2020>
4. **Ergo, K.**, De Loof, E., Debra, G., Pastötter, B., & Verguts, T. (2020). Failure to modulate reward prediction errors in declarative learning with theta (6 Hz) frequency transcranial alternating current stimulation. *PLOS ONE*, 15(12), e0237829.
<https://doi.org/10.1371/journal.pone.0237829>
5. **Ergo, K.**, De Loof, E., & Verguts, T. (2020). Reward prediction error and declarative memory. *Trends in Cognitive Sciences*, 24(5), 388–397.
<https://doi.org/10.1016/j.tics.2020.02.009>
6. **Ergo, K.***, De Loof, E.*, Janssens, C., & Verguts, T. (2019). Oscillatory signatures of reward prediction errors in declarative learning. *NeuroImage*, 186, 137–145.
<https://doi.org/10.1016/j.neuroimage.2018.10.083>
7. De Loof, E.*, **Ergo, K.***, Naert, L., Janssens, C., Talsma, D., Van Opstal, F., & Verguts, T. (2018). Signed reward prediction errors drive declarative learning. *PLOS ONE*, 13(1), e0189212. <https://doi.org/10.1371/journal.pone.0189212>

* joint first authorship

Manuscripts in Press

Manuscripts Submitted or in Preparation

Research Visits

03/2020 – 04/2020 Department of Cognitive Psychology, Universität Trier, Germany
Project: *Failure to modulate reward prediction errors with theta (6 Hz) transcranial alternating current stimulation*
Supervisor: Prof. Dr. Bernhard Pastötter

Research Presentations and Talks

Ergo, K., De Loof, E., Calderon, B. C., & Verguts, T. (2019). The role of reward prediction error in declarative memory. The Role of Reward Prediction Error in Declarative Learning Workshop (Ghent, Belgium). (Oral presentation)

Ergo, K., De Loof, E., & Verguts, T. (2019). Does reward prediction error modulate phase connectivity in a declarative learning task? Society for Psychophysiological Research (Washington DC, USA). (Poster)

Ergo, K., De Loof, E., Debra, G., & Verguts, T. (2018). Does theta tACS modulate the effect of reward prediction error on declarative learning (Nijmegen, The Netherlands). (Poster)

Ergo, K., De Loof, E., Janssens, C., & Verguts, T. (2017). Signed reward prediction errors drive declarative learning. Research afternoon FPPW (Ghent, Belgium). (Poster)

Ergo, K., De Loof, E., Janssens, C., & Verguts, T. (2017). Signed reward prediction errors drive declarative learning. International Conference for Cognitive Neuroscience (ICON) (Amsterdam, The Netherlands). (Poster)

De Loof, E., **Ergo, K.**, Janssens, C., Talsma, D., & Verguts, T. (2017). Signed reward prediction errors drive declarative learning. Belgian Society for Neuroscience meeting (Ghent, Belgium). (Oral presentation)

De Loof, E., **Ergo, K.**, Janssens, C., Talsma, D., & Verguts, T. (2017). The role of reward prediction errors in declarative memory. Cognitive neuroscience of memory: The recollection, familiarity and novelty detection conference (Liège, Belgium). (Oral presentation)

Service and Outreach

05/2017 – 09/2019 EEG lab manager
Responsibilities: Provide training to researchers new to the EEG Biosemi system, assist new Biosemi users during their first EEG recordings, update EEG 'how-to' running guide, ensure that there are sufficient supplies, send broken material for repair.

Ad-hoc journal reviewing:

Frontiers in Neuroscience (Review Editor) (03/2021 – present), International Journal of Psychophysiology, Psychologica Belgica

Technical Skills

Research Techniques: Behavioral research, EEG, tACS

Programming Languages: R (*advanced*), MATLAB (*intermediate*), Python (*beginner*)

Statistical Analyses: Linear-mixed-effects modeling in R (*advanced*), Bayesian statistics in JASP (*beginner*)

Software: E-Prime, EEGLAB, FieldTrip, BrainVision Analyzer, sLoreta

Other: HTML (*intermediate*), CSS (*beginner*)

Training and Workshop Participation

06/2021	Noninvasive Brain Stimulation Workshop (online)
05/2021	FLAMES workshop on An introduction to writing qualitative research papers for publication in academic journals (online)
05/2021	FLAMES workshop on Data tidying in Python with pandas (online)
02/2021	Generative Episodic Memory Workshop (online)
09/2020	R Intermediate (ICES, online)
05/2020	Computational Modeling in Non-Invasive Brain Stimulation (NIBS) Workshop (online)
04/2020	BrainWeb conference (online)
12/2019	Supervising writing tasks (Ghent University, Belgium)
12/2019	Teaching at the UGent: Intervision (Ghent University, Belgium)
11/2019	The power of collective feedback (Ghent University, Belgium)
10/2019	Teaching at the UGent: The basics (Ghent University, Belgium)
11/2018	Networking 2.0, discover your 'why' with Lego Serious Play (Ghent University, Belgium)
09/2018	Donders toolkit on Brain Stimulation (Radboud University, The Netherlands)
08/2018	Donders Summer School on Analyzing Neural Time Series Data (Radboud University, The Netherlands)
06/2018	FLAMES seminar on Simple Linear Regression (Ghent University, Belgium)
05/2018	FLAMES workshop on Graphics in R (Ghent University, Belgium)
05/2018	Brainhack (Ghent University, Belgium)
02/2018	GlFI fMRI safety training (Ghent University Hospital, Belgium)
01/2018	FLAMES colloquium on text mining (Ghent University, Belgium)
11/2017	Meeting Skills (Ghent University, Belgium)
09/2017	11 th from PhD to job market: Getting ahead with a PhD in the SSH (Ghent University, Belgium)
06/2017	Cutting EEG: 3 rd Symposium on cutting-edge methods for EEG research (University of Glasgow, Scotland)
05/2017	Dense array EEG workshop for multimodal source imaging applications (Ghent University Hospital, Belgium)
04/2017	Biomed workshop series EEG, Stepping out of your EEG comfort zone: New ways of recording and analysis (University of Leuven, Belgium)
11/2016	BrainModes workshop (Ghent University, Belgium)
11/2016	MNE workshop (Ghent University, Belgium)

Teaching Experience

- 02/2017 – current Undergraduate teaching assistant
Course: Psychologische Functieleer I
Responsibilities: Respond to student questions, revise exam questions, organize feedback moments for students who wish to view their exam, input student grades into an Excel sheet.

Mentoring Experience

Bachelor's thesis

- 2018 – 2020 Luna De Vilder
Title: *Can the perceived sense of agency modulate the role of signed reward prediction errors on declarative learning?*
- 2018 – 2020 Steven Geysen
Title: *Does increasing the range of reward prediction errors lead to an unsigned reward prediction error effect in declarative learning?*
- 2018 – 2019 Emma Vandenberghe
Title: *Hartslagvariabiliteit als fysiologische marker voor het reward prediction error effect bij declaratief leren*
- 2018 – 2019 Marie De Bruecker
Title: *Een Bayesiaanse benadering van autisme: Atypische verwerking van reward prediction errors en de invloed op declaratief leren*
- 2017 – 2018 Stefanie De Smet
Title: *The testing effect: A Reinforcement Learning point of view*
- 2017 – 2018 Robin De Wulf
Title: *Does extraversion modulate the effect of signed reward prediction error on declarative learning?*
- 2016 – 2018 Eva Scherlippens
Title: *Can reward prediction error have a contextual effect on declarative memory?*
- 2016 – 2017 Jasper De Buck
Title: *The effect of different kinds of rewards and reward prediction errors on declarative memory*

Master's thesis

- 2018 – 2020 Anna Snoeck (co-supervised)
Title: *Signed reward prediction errors drive declarative learning and are encoded in the ventral striatum*
- 2018 – 2020 Toon Colman (co-supervised)
Title: *Is eye-blink rate a marker for successful declarative learning?*
- 2017 – 2019 Gillian Debra (co-supervised)
Title: *Influencing the learning brain: Does oscillatory activity in the theta frequency band modulate the influence of reward prediction errors on declarative learning?*

References

- Prof. Dr. Tom Verguts (tom.verguts@ugent.be) (Ghent University, Belgium)
Prof. Dr. Bernhard Pastötter (pastoetter@uni-trier.de) (Universität Trier, Germany)