

# GABRIEL WEINDEL

He/Him, Born in 1991 in Lübbecke, Germany

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## POSITIONS

*Employment*    04/2021 - 04/2021    Temporary Lecturer, Doctoral school *cognition langage et éducation*, Aix-Marseille University (AMU)

10/2020 - 12/2020    Research Engineer, *Laboratoire de Neurosciences Cognitives*, Centre National de la Recherche Scientifique

09/2019 - 09/2020    Research and teaching assistant (in French *Attaché Temporaire d'Enseignement et de Recherche*), *Laboratoire de Psychologie Cognitive*, AMU

10/2016 - 09/2019    Employed doctoral student, *Laboratoire de Psychologie Cognitive*, AMU

01/2015 - 06/2015    Part-time student mentor, *laboratoire PsyClé*, AMU

*Internships*    Clinical internships between 2013 and 2016 :

- Virtual reality as a treatment for generalized anxiety disorder, clinical research assistant in the program lead by Eric Malbos, M.D. Ph.D., *Assistance Publique des Hôpitaux de Marseille*
- Neuropsychological evaluation and psychological support in geriatrics, under the supervision of Benoit Michel, psychologist, *Le chêne vert*, Marseille
- Neuropsychological assessment in a psychiatry unit, under the supervision of Florence Vaillant, psychologist, *Assistance Publique des Hôpitaux de Marseille*

*Grant*

- 10/2016 - 08/2019 Interdisciplinary Ph.D. grant from *Collège Doctoral*, university wide competition (AMU - *Ministère de l'Enseignement Supérieur et de la Recherche*).

## EDUCATION

*Ph.D.*    10/2016 - 03/2021    Ph.D. in psychology and neuroscience, AMU

*M.Sc.*    09/2014 - 10/2016    Master in cognitive psychology and neuropsychology, with highest honours, AMU

*Bachelor*    09/2010 - 06/2014    Bachelor in psychology, with high honours, AMU

## RESEARCH EXPERIENCE DURING EDUCATION

2016 - 2021    **PhD thesis.**  
On the measurement and estimation of cognitive processes with

electrophysiological recordings and reaction time modeling.  
Supervisors: F.-Xavier Alario & Boris Burle.

- 2015 - 2016    **2<sup>nd</sup> year master thesis.**  
Decision making models : a common formalism to link psychology and neurophysiology (In French *Les modèles de prise de décision : Un formalisme commun pour lier psychologie et neurophysiologie*).  
Supervisor: Boris Burle.
- 2014 - 2015    **1<sup>st</sup> year master thesis.**  
Response selection through temporal orienting : an electromyography study (In French *La sélection de réponses à travers l'orientation temporelle : une étude en électromyographie*).  
Supervisors: Jenny Coull & Boris Burle.
- 2013 - 2014    **3<sup>rd</sup> Bachelor thesis.**  
Spatio-temporal brain dynamics of orthographic, morphological and semantic processing in dyslexic university students: a MEG study.  
Supervisors: Eddy Cavalli & Pascale Colé.

## RESEARCH OUTPUTS

### Publications

- **Weindel, G.**, Gajdos, T., Burle, B., & Alario, F.-X. (2021). The Decisive Role of Non-Decision Time for Interpreting the Parameters of Decision Making Models. *PsyArXiv*, Preprint retrieved from <https://psyarxiv.com/gewb3>
- **Weindel, G.** (2021). On the measurement and estimation of cognitive processes with electrophysiological recordings and reaction time modeling. PhD thesis, retrieved from <https://thesiscommons.org/342zp/>
- **Weindel, G.**, Anders, R., Alario F.-X. & Burle B. (2021). Assessing model-based inferences in decision making with single-trial response time decomposition. *Journal of Experimental Psychology: General*. Advance online publication.
- Rahnev, D., Desender, K. Lee, A. L. F., Adler, W. T., Aguilar-Lleyda, D., Akdoğan, B., Arbuzova, P., Atlas, L. Y., Balci, F., Bang, J. W., Bègue, I., Birney, D. P., Brady, T. F., Calder-Travis, J., Chetverikov, A., Clark, T. K., Davranche, K., Denison, R. N., Dildine, T. C., Double, K. S., Duyan, Y. A., Faivre, N., Fallow, K., Filevich, E., Gajdos, T., Gallagher, R. M., de Gardelle, V., Gherman, S., Haddara, N., Hainguerlot, M., Hsu, T., Hu, X., Iturrate, I., Jaquiere, M., Kantner, J., Koculak, M., Konishi, M., Koß, C., Kvam, P. D., Kwok, S. C., Lebreton, M., Lempert, K. M., Ming L. C., Luo, L., Maniscalco, B., Martin, A., Massoni, S., Matthews, J., Mazancieux, A., Merfeld, D. M., O'Hora, D., Palser, E. R., Paulewicz, B., Pereira, M., Peters, C., Philastides, M. G., Pfuhl, G., Prieto, F., Rausch, M., Recht, S., Reyes, G., Rouault, M., Sackur, J., Sadeghi, S., Samaha, J., Seow, T. X. F., Shekhar, M., Sherman, M. T., Siedlecka, M., Skóra, Z., Song, C., Soto, D., Sun, S., van Boxtel, J. J. A., Wang, S., Weidemann, C. T., **Weindel, G.**, Wierchoń, M., Xu, X., Ye, Q., Yeon, J., Zou, F., Zylberberg, A. (2020). The Confidence Database. *Nature Human Behavior*, 4, 317–325.
- Malbos, E., Chichery, N., Borwell, B., Seimandi, J., **Weindel, G.**, Lançon, C. (2020). Virtual Reality for Relaxation in the Treatment of Generalized Anxiety Disorder: a Comparative Trial. *Annual review of Cybertherapy and Telemedicine*, 183.
- Gajdos, T., Fleming, S. M., Saez Garcia, M., **Weindel, G.**, et Davranche, K. (2019). Revealing subthreshold motor contributions to perceptual confidence. *Neuroscience of consciousness*, (1), niz001.
- + Personal contribution acknowledged in 2 other refereed publications:  
Palmis, S., et al., *Dev. Science* (2021), Nunez, M.D. et al., *Neuroimage* (2019).

### Oral communications

05/2021 · **Weindel, G.** On the measurement and estimation of cognitive processes with electrophysiological recordings and reaction time modeling.

Presented at *Laboratoire de Psychologie et NeuroCognition*, Grenoble (France).  
Invited speaker.

03/2021 · **Weindel, G.** On the measurement and estimation of cognitive processes with electrophysiological recordings and reaction time modeling. presented at *Aix-Marseille Université*, Marseille (France). [PhD Defense](#).

07/2020 · **Weindel, G.**, Anders, R., Alario, F.-X., Burle, B.. Assessing model-based inferences in decision making with single-trial response time decomposition. Presented at *Virtual MathPsych/ICCM 2020*, [Invited Speaker](#).

05/2019 · **Weindel, G.**, Burle, B. Alario, F.-X.. Towards a single-trial electrophysiological decomposition of categorical decisions (in French Vers une décomposition électrophysiologique essai par essai des décisions catégorielles). Presented at *Institut de Neurosciences des Systèmes*, Marseille (France). Invited speaker

05/2019 · **Weindel, G.**, Anders, R., Alario, F.-X., Burle, B.. Assessing model-based inferences in decision making with single-trial response time decomposition. Presented at *Neurofrance 2019*, Marseille (France). *Poster*.

11/2018 · **Weindel, G.**, Anders, R., Alario, F.-X., Burle, B.. Fractionating reaction times to probe the validity of the Drift Diffusion Model parameters. Presented at *DOC2AMU Interdisciplinary Doctoral Day*, Marseille (France). *Poster*.

04/2018 · **Weindel, G.**, Anders, R., Alario, F.-X., Burle, B.. Fractionating reaction times to probe the validity of the Drift Diffusion Model parameters. Presented at *Probabilities and Optimal Inference to Understand the Brain*, Marseille (France). Invited speaker.

01/2018 · **Weindel, G.**.. *Les modèles de prise de décision : Un formalisme commun pour lier psychologie et neurophysiologie*. Presented at the *General assembly of the association Neuropsych13*, Marseille (France). Invited speaker.

09/2017 · **Weindel, G.**, Anders, R., Alario, F.-X., Burle, B.. Fractionning Reaction Time to probe the validity of the Drift Diffusion Model parameters. *20th Conference of the European Society for Cognitive Psychology (ESCoP)*, Potsdam (Germany). [Poster](#)

*Ad-hoc reviewing*

Journal : Computational Brain & Behavior (1)

## TEACHING

*Lectures created*

Spring 2021 · Linear mixed models and Bayesian statistics, Course for doctoral students, AMU (12 hours, see [associated webpage](#))

Spring 2021 · An introduction to R programming, Course for doctoral students, AMU (4 hours, see [Github repository](#))

Spring 2020 · Mental chronometry and linear mixed models: 1<sup>st</sup> year master of cognitive science, AMU (11 hours, see [Github repository](#))

Spring 2020 · Education to research and scientific elaboration: 1<sup>st</sup> and 2<sup>nd</sup> year Master in cognitive psychology and neuropsychology, AMU (9 hours)

Spring 2020 · Experimental design: 3<sup>rd</sup> year psychology bachelor, AMU (10 hours, see [Github repository](#))

Spring 2020 · Supervision of research bachelor thesis: 3<sup>rd</sup> year psychology bachelor, AMU (10 hours)

Fall 2019 · Qualitative and model-based analysis of individual differences: 1<sup>st</sup> year Master in cognitive psychology and neuropsychology, AMU (9 hours)

Fall 2019 · Introduction to cognitive psychology: 1<sup>st</sup> year Master Intervention and social development, AMU (9 hours)

#### Teaching assistant

Spring 2016 · Spring 2017 · Fall 2018 · Fall 2019 · Cognitive Psychology: 2<sup>nd</sup> year psychology bachelor, AMU (246 hours)

Fall 2016 · Spring 2020 · Cognitive Psychology: 1<sup>st</sup> year psychology bachelor, AMU (76 hours)

#### Supervision and mentoring

- Assisting Boris Burle in the supervision of two *AMU* Neuroscience MSc theses:
  - Johana Vialard (2019), Is manipulating probabilities in decision making only linked to decisional processes?
  - Ivan Ballasch (2018), electromyographical approach in a decision making task.
- Supervision of two 3rd year *AMU* Psychology bachelor theses:
  - Léa Zamora (2017), Experimental and neurophysiological testing of a formal model of decision making.
  - Robin Cantalupi (2016), Is speed-accuracy tradeoff merely decisional?
- Mentoring of Students from the *AMU Master Orientation, Insertion et conseil*, for the use of the R programming language in 2015.

#### Teaching training

Courses in undertook to get basic teaching qualification at *AMU* between 2016 and 2017 :

- Evaluate students in a competency-based approach (8 hours)
- Training engineering (8 hours)
- Diversity of the student population - international students (8 hours)
- Management of student group work (12 hours)
- Accompanying students in their work methodology (12 hours)

## OTHER INFORMATION

#### Workshops attended

2019 · Cognitive Control and Performance Monitoring, Oostduinkerke (Belgium)

2018 · MNE-Python workshop at *AMU*, Marseille (France)

2018 · 4 days Masterclass in Bayesian Statistics at *Centre international de Rencontres Mathématiques*, Marseille (France)

2016 · Bayesian Estimation of Evidence Accumulation Architectures in Neuroscience and Cognition, 5 days summer school by Pr. Scott Brown, Pr. Andrew Heathcote, Pr. Dora Matzke, Pr. Brandon Turner at *Boston University*, Boston (MA, USA)

#### Research skills

(General) Linear (mixed) models · Bayesian estimation and statistics · Cognitive modeling · Cognitive tasks and experimental design · Electro-encephalography · Electro-myography

#### Computer skills

Python (e.g. numpy, mne, HDDM, pystan, arviz, matplotlib, seaborn, pandas) ·  $\text{\LaTeX}$  · R · Stan · jupyter notebooks · Brainvision · PsychoPy · Linux · Git · Github · bash · Open office suite · Distant computing (ssh) · Server administration under Debian

*Community  
service*

2014-2015 · President of the federation of AMU student's associations,  
Fédération Aix-Marseille Interasso.

2013-2015 · Elected student member at the Academic council of Aix-Marseille  
Université ("*Commission Formation Vie Universitaire*")

2014 · Vice president in charge of higher education and research at the  
federation of AMU student's associations, Fédération Aix-Marseille Interasso.

2013-2015 · President of the association for psychology students, Psychaid.

2012-2014 · Elected student member at the Psychology council of  
Aix-Marseille University

2012-2013 · Vice-president in charge of communication at the association for  
psychology students, Psychaid.

*Languages*

ENGLISH · Advanced

FRENCH · Native speaker

GERMAN · Native speaker