

**Contact****Address**

Centrum Wiskunde & Informatica  
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1098 XG Amsterdam  
The Netherlands

**Email**

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**Education**

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PhD Mathematical Psychology (cum laude), University of Groningen  
MSc Behavioural and Cognitive Neuroscience (cum laude), University of Groningen  
BSc Mathematics, University of Amsterdam  
BSc Psychology, Chemnitz University of Technology

**Employment**

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Since 09/2021	Postdoctoral researcher, Centrum Wiskunde & Informatica, Machine Learning Group
06/2019–08/2021	Postdoctoral researcher (Mathematical Psychology), University of Amsterdam, Department of Psychological Methods
09/2017–11/2018	Postdoctoral researcher (Psychometrics), University of Amsterdam, Department of Psychological Methods
08/2017–03/2018	Postdoctoral researcher (Mathematical Psychology), University of Tasmania, School of Medicine (Psychology)
12/2016–08/2017	Graduate teaching assistant (docent 4), University of Amsterdam, Department of Psychological Methods
09/2014–11/2016	Visiting researcher, University of Amsterdam, Department of Psychological Methods
06/2013–11/2016	PhD student, University of Groningen, Department of Experimental Psychology
09/2012–06/2013	Graduate teaching assistant (docent 4), University of Groningen, Department of Experimental Psychology

**Teaching**

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2018–2021	Lecturer “Basic Skills in Mathematics”, University of Amsterdam, Department of Psychological Methods
2021	Lecturer “Simulating Psychological Processes”, University of Amsterdam, Department of Psychological Methods
2018–2020	Lecturer “Calculus”, University of Amsterdam, Department of Psychological Methods
2017–2018	Lecturer “Programming in Psychological Science”, University of Amsterdam, Department of Psychological Methods
2017	Teaching Assistant “Calculus”, University of Amsterdam, Department of Psychological Methods
2017	Supervision 2 Bachelor thesis groups, University of Amsterdam, Department of Psychological Methods

2015-2016	Teaching assistant “Statistics III”, University of Groningen, Department of Psychometrics and Statistics
2014	Supervision Bachelor thesis group, University of Groningen, Department of Experimental Psychology
2013	Supervision Master thesis, University of Groningen, Department of Experimental Psychology
2013	Teaching assistant & lecturer “Experimenting and Measuring Performance”, University of Groningen

## Grants

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2020	VENI grant for a 4-year postdoc project, NWO (Netherlands Organisation for Scientific Research)
2013	Top Talent grant for a 3-year PhD project, NWO (Netherlands Organisation for Scientific Research)
2012	PhD fund, University of Groningen
2011	Travel grant, TIMELY EU COST funded action

## Ad Hoc Reviewing

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I have served as ad hoc reviewer for:

- Behavior Research Methods
- Computational Brain & Behavior
- Journal of Mathematical Psychology
- Psychometrika
- Psychonomic Bulletin & Review
- Quality & Quantity
- Quarterly Journal of Experimental Psychology
- Scientific Reports
- The Quantitative Methods for Psychology

## Publications

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### (In Preparation or Submitted)

\*Boehm, U., Cox, S., Gantner, G. & Stevenson, R. (submitted). *Efficient Numerical Approximation of a Non Regular Fokker–Planck Equation Associated With First-Passage Time Distributions*

**Boehm, U.**, Evans, N. J., Gronau, Q. F., Matzke, D., Wagenmakers, E.-J., & Heathcote, A. (submitted). *Computing and Using Inclusion Bayes Factors for Mixed Fixed and Random Effect Diffusion Decision Models*

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\*Authors are listed alphabetically.

## (Published or In Press)

\*Boehm, U., Cox, S., Gantner, G. & Stevenson, R. (in press). Fast solutions for the first-passage distribution of diffusion models with space-time-dependent drift functions and time-dependent boundaries. *Journal of Mathematical Psychology*.

Heck, D. W., **Boehm, U.**, Böing-Messing, F., Bürkner, P.-C., Derks, K.,..., & Hoijsink, H. (in press). A review of applications of the Bayes factor in psychological research. *Psychological Methods*.

Aczel, B., Szaszi, B., Nilsson, G., van den Akker, O. R., Albers, C. J., van Assen, M. A. L. M., Bastiaansen, J. A., Benjamin, D., **Boehm, U.**,..., & Wagenmakers, E.-J. (in press). Consensus-based guidance for conducting and reporting multi-analyst studies. *eLife*

**Boehm, U.**, Marsman, M., van der Maas, H. L. J., Maris, G. (in press). An attention-based diffusion model for psychometric analyses. *Psychometrika*.

Retzler, C., **Boehm, U.**, Jing, C., Cochrane, A., & Manning, C. (2021). Prior information use and response caution in perceptual decision-making: No evidence for a relationship with autistic-like traits. *Quarterly Journal of Experimental Psychology*.

**Boehm, U.**, Matzke, D., Gretton, M., Castro, S., Cooper, J., Skinner, M., Strayer, D. & Heathcote, A. (2021). Real-time prediction of fluctuations in cognitive workload. *Cognitive Research: Principles and Implications*, 6, Article Number 30.

Manning, C., Wagenmakers, E.-J., Norcia, A. M., Serif, G., & **Boehm, U.** (2021). Perceptual decision-making in children: Age-related differences and EEG correlates. *Computational Brain & Behavior*, 4, 53-69.

**Boehm, U.**, Van Maanen, L., Evans, N., Brown, S., & Wagenmakers, E.-J. (2020). A theoretical analysis of the reward rate optimality of collapsing decision criteria. *Attention, Perception & Psychophysics*, 82(3), 1520-1534.

Van Doorn, J., Van den Bergh, Don, **Boehm, U.**, Dablander, F., Derks, K., Draws, T., Etz, A., Evans, N. J., Gronau, Q., Haaf, J., Hinne, M., Kucharský, Š., Ly, A., Marsman, M., Matzke, D., Komarlu Narendra Gupta, A. R., Sarafoglou, A., Stefan, A., Voelkel, J., & Wagenmakers, E.-J. (2020). The JASP Guidelines for Conducting and Reporting a Bayesian Analysis. *Psychonomic Bulletin & Review*.

Ly, A., Stefan, A., Van Doorn, J., Dablander, F., van den Bergh, D., Sarafoglou, A., Kucharský, S., Derks, K., Gronau, Q. F., Raj, A., **Boehm, U.**, van Kesteren, E.-J., Hinne, M., Matzke, D., Marsman, M., & Wagenmakers, E.-J. (2020). The Bayesian Methodology of Sir Harold Jeffreys as a practical alternative to the p-value hypothesis test. *Computational Brain & Behavior*, 3, 153-161.

**Boehm, U.**, Annis, J., Frank, M. J., Hawkins, G. E., Heathcote, A., Kellen, D., ..., Wagenmakers, E.-J. (2018). Estimating across-trial variability parameters of the diffusion decision model: Expert advice and recommendations. *Journal of Mathematical Psychology*, 87, 46-75. DOI: 10.1016/j.jmp.2018.09.004

**Boehm, U.**, Marsman, M., Matzke, D., & Wagenmakers, E.-J. (2018). On the importance of avoiding shortcuts in applying cognitive models to hierarchical data. *Behavior Research Methods*, 50(4), 1614-1631. DOI: 10.3758/s13428-018-1054-3

**Boehm, U.**, Steingroever, H., & Wagenmakers, E.-J. (2018). Using Bayesian regression to test hypotheses about relationships between parameters and covariates in cognitive models. *Behavior Research Methods*, 50(3), 1248-1269. DOI: 10.3758/s13428-017-0940-4

Matzke, D., **Boehm, U.**, & Vanderkerckhove, J. (2018). Bayesian inference for psychology. Part III: Parameter estimation in nonstandard models. *Psychonomic Bulletin & Review*, 25(1), 77-101. DOI:

Evans, N. J., Hawkins, G. E., **Boehm, U.**, Wagenmakers, E.-J. & Brown, S. D. (2017). The computations that support simple decision-making: A comparison between the diffusion and urgency-gating models. *Scientific Reports*, 7(1), article 16433. doi: 10.1038/s41598-017-16694-7.

Gronau, Q. F., Sarafoglou, A., Matzke, D., Ly, A., **Boehm, U.**, Marsman, M., Leslie, D. S., Forster, J. J., Wagenmakers, E.-J., & Steingroever, H. (2017). A tutorial on bridge sampling. *Journal of Mathematical Psychology*, 81, 80-97.

Ly, A., **Boehm, U.**, Heathcote, A., Turner, B. M. , Forstmann, B., Marsman, M., & Matzke, D. (2017). A flexible and efficient hierarchical Bayesian approach to the exploration of individual differences in cognitive-model-based neuroscience. In A. A. Mustafa (Ed.) *Computational Models of Brain and Behavior* (pp. 467-480). Wiley & Sons.

**Boehm, U.**, Hawkins, G.E., Brown, S., Van Rijn, H., & Wagenmakers, E.-J. (2016). Of monkeys and men: Impatience in perceptual decision-making. *Psychonomic Bulletin & Review*, 23(3), 738-749. doi: 10.3758/s13423-015-0958-5

**Boehm, U.**, Van Maanen, L., Forstmann, B., & Van Rijn, H. (2014). Trial-by-trial fluctuations in CNV amplitude reflect anticipatory adjustment of response caution. *NeuroImage*, 96, 95-105. doi: 10.1016/j.neuroimage.2014.03.063

### **(Doctoral Dissertation)**

**Boehm, U.** (2017). *Optimal Bounds, Bounded Optimality: Models of Impatience in Decision-Making* (Unpublished doctoral dissertation). University of Groningen, Groningen, Netherlands.