Ronald B. Dekker

PhD Student in Cognitive Neuroscience

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PROFILE

I am a motivated cognitive computational neuroscience researcher with a wide range of academic interests. This is reflected by my PhD work, which combines analysis of artificial learning systems, computational modeling of behavior and analysis of real neural data. It is my firm belief that an interdisciplinary approach can provide insights unobtainable by the pursuit of any individual field.

Research interests: representation learning, training curricula, continual learning, decision making, computational modelling, artificial intelligence, neurolinguistics, visual perception, methodology

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EDUCATION

2017 - Present — **University of Oxford**
PhD in Experimental Psychology
Supervised by Dr. Christopher Summerfield

Funding: Wolfson Marriott Graduate Scholarship in Experimental Psychology and MSD CSEF grant

Project 1: Internal noise as a determinant of curriculum efficacy (in prep.)
Project 2: Capacity limits place constraints on human information integration
Project 3: Compositional learning in humans and machines

2010 - 2017 — **University of Amsterdam**
MSc in Brain & Cognitive Sciences (cum laude), GPA: 9.0/10
BSc in Psychobiology (with honours)
BSc in Interdisciplinary Sciences

EXPERIENCE

2019-2019 — **Teaching at University of Oxford**
Demonstrated and graded for undergraduate courses

2018-2020 — **Student supervision at University of Oxford**
Supervised 3 students' research projects (1 year each)

- EEG correlates of boundary-distal versus boundary-proximal training schemes (Eleanor Holton)
- Curriculum effects in the weather prediction task (Fabian Otto)
- Decision-making biases account for discrepancies between empirical behavior and formal models of probabilistic evidence integration (Mingfang Zhang)

2017-2017 — **Tesla Minor**
Consultancy project for healthcare innovation company ActiveCues

- Assessed feasibility of creating a new product for 50 psychopathological groups
- Brought together researchers, developers and clinicians to bring a scientific framework into practice
- Developed a serious game to tackle substance abuse using interactive light projections

2015-2017 — **Editor at ABC (Amsterdam Brain and Cognition) journal**

- Reviewed submitted articles and adapted these to a publishable format with Adobe InDesign

PUBLICATIONS AND PRESENTATIONS

Publications	Dekker, R., Holton, E., Flesch, T., Saxe, A. & Summerfield, C. (2021). Internal noise as a determinant of curriculum efficacy (in prep.)
	Flesch, T., Balaguer, J., Dekker, R., Nili, H. & Summerfield, C. (2018). Comparing continual task learning in minds and machines. *Proceedings of the National Academy of Sciences*
Presentations	Schulz and Schuck lab (Max Planck Institutes, Tuebingen & Berlin) - Joint lab meeting (March 2021). Title: compositional learning in humans and machines
	Orban lab (MTA Wigner Research Centre, Budapest) - Lab meeting (July 2020). Title: Hierarchical composition through ß-VAE latents
	International Symposium on Biology of Decision Making (2018 & 2019). Poster presentations
	Department of Experimental Psychology (University of Oxford) - Departmental seminar (Dec 2019). Title: Curriculum learning

QUALIFICATIONS

Technical skills (ordered by proficiency)	Python, MATLAB, JavaScript, HTML, UNIX (Ubuntu), Excel, SPSS, R, DOS, FSL, Wolfram Mathematica
Research techniques	Artificial neural networks (PyTorch, TensorFlow), EEG, disciplinary and interdisciplinary collaboration, experimental design, computational modelling & model comparison, statistics
Languages	Dutch: Fluent (native)
	English: Fluent - BLTC (British Language Training Centre) Academic English grade: 8.5 (tested 2011)
	Japanese: Intermediate - OULC (Oxford University Langage Centre) CEFR B1 level certificate available (June 2020)