

Contact Information

address Donders Institute for Brain, Cognition and Behaviour
Radboud University
Thomas van Aquinostraat 4, 6525 GD Nijmegen, the Netherlands

e-mail h.denouden@donders.ru.nl

website www.denoudenlab.org

Research Domains

Interests: Reinforcement learning; Decision-making; Motivational control; Fronto-striatal circuits; Neural prediction error coding; Computational Psychiatry (focus: compulsive disorders); Serotonin; Dopamine. **Techniques & Quantitative Skills:** Neuroimaging (fMRI, (i)EEG); Psychopharmacology; Neurostimulation (transcranial ultrasonic stimulation, deep brain stimulation); Computational modelling of behaviour; Advanced (model-based) neuroimaging analysis methods, particularly Dynamic Causal Modelling.

Academic Positions and Education

Donders Institute for Brain Cognition and Behaviour	Associate professor (Jul 2018 – present) 0.5 fte Research / 0.5 fte Teaching (UTQ/BKO qualified)
Donders Institute for Brain Cognition and Behaviour	Assistant professor (Oct 2016 – Jul 2018) 0.5 fte Research / Teaching (UTQ/BKO qualified)
Donders Institute for Brain Cognition and Behaviour	Veni Laureate Fellow (Jul 2012 – Sept 2016) – 1 fte Research Senior Researcher (Jan 2015-Sep 2016)
New York University	Postdoctoral Fellow – 1 fte research Advisor: Prof. N Daw, Center for Neural Science & Department of Psychology (Jun 2011 – Jun 2013)
Donders Institute for Brain Cognition and Behaviour	Postdoctoral Fellow – 1 fte research Advisor: Prof. R. Cools, Radboud University Nijmegen, Nijmegen, Netherlands (April 2009-May2011)
University College London	Wellcome Trust PhD in Neuroscience , Submitted: April 2009; Defended: July 2009. Thesis: Prediction-error dependent changes during associative learning. Advisors: Prof. KE Stephan, Prof. KJ Friston
Utrecht University	MSc Neuroscience, cum laude (August 2004) Incl. research project at Institute of Cognitive Neuroscience, University College London, and Department of Psychology, Harvard University. Thesis supervisor: Prof. SJ Blakemore, UCL
University College Utrecht	BSc Life Sciences, summa cum laude (Sept 2002) GPA 3.98, 1 st of class

Research Grants

2017	Vidi grant, the Netherlands Organisation for Scientific Research (NWO) Innovative Research Incentives scheme	€ 800,000
2017	Aspasia grant, NWO	€ 100,000
2016	Wellcome Trust & Royal Society Henry Dale Fellowship (declined)	£ 940,000
2015	Donders Centre for Cognition Research Fellowship	€ 10,000
2014	Research talent grant, NWO	€ 171,362
2011	Veni grant, NWO Innovative Research Incentives scheme	€ 250,000
2010	AXA Research Fund postdoctoral fellowship (declined because of conflict with VENI grant)	€ 50,000
2004	4 year PhD Neuroscience Wellcome Trust Prize Studentship, University College London	£ 126,000

Co-applicant

2017	DFG postdoctoral fellowship awarded to Dr. Vanessa Scholz, Donders Institute, Radboud University Nijmegen	€ 66,120
2016	Postdoctoral fellowship awarded to Dr. Alex Millner, Harvard University American Foundation for Suicide Prevention, USA	\$ 106,000
2014	Research associate fellowship awarded to Dr. Javier Gonzales-Rosa, Technical University Madrid. Ministry of Economy and Competitiveness (MINECO), Spain	€ 203,401

Research and Training Fellowships

2007	<i>Computational Neuroscience</i> summer school, Okinawa Institute of Science and Technology, Japan	
2006	<i>Schizophrenia and Related Disorders</i> summer school, Cold Spring Harbor Laboratories, USA	
2004	Royal Society Summer studentship with Prof. S.J. Blakemore, UCL, UK	£ 5,000

Honours and Awards

2018	Radboud University Science Award. "Awarded to the three best, most important and interesting research projects of the Radboud University and the Radboudumc in the past year".	
2012	Federation for European Neurosciences Travel Award	€ 750
2009	Brain Travel Award for travel to OHBM with abstract: Striatal prediction error modulates cortical coupling during associative learning.	£ 800
2009	OHBM Student Travel Award with abstract: Striatal prediction error modulates cortical coupling during associative learning.	\$ 800
2006	Brain Connectivity Workshop Travel Grant , Sendai, Japan	£ 1,500
2003	Hersenstichting student travel grants for MSc project on: Adolescent development of the neural circuitry for thinking about intentions.	€ 800
2003	Dutch society for neuropsychology travel grant for MSc project on: Adolescent development of the neural circuitry for thinking about intentions.	€ 1000

Publications

‡ indicates equal contribution

H – index (google scholar):	26
I – 10 index (google scholar):	37
Total number of citations:	>4500

Preprints / under review

1. Effect of lysergic acid diethylamide (LSD) on reinforcement learning in humans. Kanen JW, Luo Q, Kandroodi MR, Cardinal RN, Robbins TW, Carhart-Harris CL, **den Ouden HEM**. *In revision*. **bioRxiv**: <https://doi.org/10.1101/2020.12.04.412189>
2. Mindfulness based cognitive therapy enhances suppression of behaviour by aversive cues in patients with ADHD. Geurts DEM, **den Ouden HEM**, Janssen L, Swart JC, Froböse MI, Cools R, & Speckens AEM *submitted*
3. Effects of methylphenidate on reinforcement learning depend on working memory capacity. Rostami Kandroodi M, Cook JL, Swart JF, Froböse MI, Geurts DEM, Vahabie AH, Ahmadabadi MN, Cools R[‡], **den Ouden HEM**[‡]. *under review*
4. Algermissen J, Swart JC, Scheeringa R, Cools R, **den Ouden HEM**. Striatal BOLD and midfrontal theta power express motivation for action. *in revision*. **bioRxiv**: <https://doi.org/10.1101/2020.09.11.292870>

Peer-reviewed publications

5. Effects of dopamine on reinforcement learning in Parkinson's disease depend on motor phenotype (2020). van Nuland AJ, Helmich RC, Dirkx MF, Zach H, Toni I, Cools R, **den Ouden HEM**. *Brain*
- scientific commentary on this article see -Manohar. *Brain* 2020.
6. Crawley D[‡], Zhang L[‡], Jones E, Ahmad J, San José Cáceres A, Oakley B, Charman T, Buitelaar J, Murphy D, Chatham C, **den Ouden HEM**[‡], Loth E[‡] & the EU AIMS LEAP group (2020). Modeling cognitive flexibility in autism spectrum disorder and typical development reveals comparable developmental shifts in learning mechanisms. *PLoS Biology*
7. Improving emotional-action control by targeting long-range phase-amplitude neuronal coupling (2020). Bramson B, **den Ouden HEM**, Toni I, Roelofs K. *eLife*
8. Brolsma SCA, Vrijssen JN, Vassena E, Kandroodi MR, Bergman MA, van Eijndhoven PF, Collard RM, **den Ouden HEM**, Schene AH, Cools R (2020) Challenging the negative learning bias hypothesis of depression: reversal learning in a naturalistic psychiatric sample. *Psychological Medicine*
9. Verharen JPH, **den Ouden HEM**, Adan RAH, Vanderschuren LJM. (2020) Modulation of value-based decision making behavior by subregions of the rat prefrontal cortex. *Psychopharmacology*
10. Browning M, Carter CS, Chatham C, **den Ouden HEM**, Gillan CM, Baker JT, Chekroud AM, Cools R, Dayan P, Gold J, Goldstein RZ, Hartley CA, Kepecs A, Lawson RP, Mourao-Miranda J, Phillips ML, Pizzagalli DA, Powers A, Rindskopf D, Roiser JP, Schmack K, Schiller D, Sebold M, Stephan KE, Frank MJ, Huys QJM, Paulus M (2020). Realizing the Clinical Potential of Computational Psychiatry: Report from the Banbury Center Meeting, February 2019. *Biological Psychiatry*
11. Cook JL, JC Swart, M Froboese, DEM Geurts, **den Ouden HEM**[‡], Cools R[‡] (2019). Catecholaminergic modulation of meta-learning. *eLife* <https://doi.org/10.7554/eLife.51439>

12. van Nuland AJ, den Ouden HEM, Zach H, Dirx MF, van Asten JJ, Scheenen TW, Toni I, Cools R, Helmich RC. (2020) GABA-ergic changes in the thalamo-cortical circuit in Parkinson's disease. *Human Brain Mapping*
13. Millner AJ, **den Ouden HEM**, Gershman, SJ, Glenn CR, Kearns J, Bornstein AM, Marx BP, Keane TM, Nock MK (2018). Suicidal thoughts and behaviors are associated with an increased decision-making bias for active responses to escape aversive states. *Journal of Abnormal Psychology*
14. Froboese M, Swart JC, Cook JL, A. Diaconescu, Geurts DEM, **den Ouden HEM**, Cools RC (2018). Catecholaminergic modulation of the avoidance of cognitive control. *JEP General*
15. Swart JC, Frank MJ, Maatta J, Jensen O, Cools RC, **den Ouden HEM**. Frontal network dynamics reflect neurocomputational mechanisms for reducing maladaptive biases in motivated action (2018) *PLoS Biology*
16. Verharen JPH, de Jong JW, Roelofs TJM, Huffels CFM, van Zessen R, Luijendijk MCM, Hamelink R, Willuhn I, **den Ouden HEM**, van der Plasse G, Adan RAH, Vanderschuren LJM. (2018) A neuronal mechanism underlying decision-making deficits during hyperdopaminergic states. *Nature Communications* 9
17. Rietbergen MJ, Roelofs A, den Ouden HEM, Cools R (2018). Disentangling Cognitive from Motor Control: Influence of Response Modality on Updating, Inhibiting, and Shifting. *Acta Psychologica*
18. Millner AJ, Gershman SJ, Nock MK, **den Ouden HEM** (2017). Pavlovian control of escape and avoidance. *Journal of Cognitive Neuroscience*
19. Swart JC, Froboese M, Cook JL, Geurts DEM, Frank MJ, Cools RC[‡], **den Ouden HEM**[‡]. (2017) Catecholaminergic challenge uncovers distinct Pavlovian and instrumental mechanisms of motivated (in)action. *eLife*
20. Dirx M, **den Ouden HEM**, Aarts E, Timmer M, Bloem B, Toni I, Helmich R. (2017) Dopamine controls Parkinson's tremor by inhibiting the cerebellar thalamus. *Brain*
21. Dirx M, **den Ouden HEM**, Aarts E, Timmer M, Bloem B, Toni I, Helmich R. (2016) The cerebral network of Parkinson's tremor - an effective connectivity fMRI study. *Journal of Neuroscience* 36(19):5362-72
22. Heinzle J, Koopmans PJ, **den Ouden HEM**, Raman SS, Stephan KE (2016). A hemodynamic model for layered BOLD signals. *NeuroImage* 125: 556–570
23. Kroes MCW, Tona KD, **den Ouden HEM**, Vogel S, van Wingen GA, Fernandez G. (2016). How administration of the beta-blocker propranolol prior to extinction can prevent the return of fear. *Neuropsychopharmacology* 41(6):1569-78.
24. **den Ouden HEM**, Swart JC, Schmidt K, Fekkes D, Geurts DEM, Cools R. (2015) Acute serotonin depletion releases motivated inhibition of response vigour. *Psychopharmacology* 232(7): 1303-1312
25. Piray P, **den Ouden HEM**, van der Schaaf ME, Toni I, Cools R. (2015) Dopaminergic modulation of the functional ventrodorsal architecture of the human striatum. *Cerebral Cortex*
26. Van Schouwenburg MR, **den Ouden HEM**, Cools RC (2015). Selective attentional enhancement and inhibition of fronto-posterior connectivity by the basal ganglia during attention switching. *Cerebral Cortex* 25(6):1527-34
27. Sjoerds Z, **den Ouden HEM** (2015). Computationale Psychiatrie. *Neuropraxis* 19(6): 141-152
28. Cook J, **den Ouden HEM**, Hayes C, Cools R. (2014) The social dominance paradox: learning from others when you believe you're self-sufficient. *Current Biology* 24: 2812-2816

29. **den Ouden HEM**, Daw ND, Fernandez G, Elshout JA, Rijpkema M, Hoogman M, Franke B, Cools R (2013). Dissociable effects of serotonin and dopamine on reversal learning. *Neuron*, 80(4):1090-1100
30. Sescousse GS[†], **den Ouden HEM**[†] (2013). Gambling rats and gambling addiction: reconciling the role of dopamine in irrationality. *Journal of Neuroscience*, 33(8), 3256-3258
31. Geurts DEM, Huys QJM, **den Ouden HEM**, Cools R (2013) Serotonin and aversive Pavlovian control of instrumental behavior in humans. *Journal of Neuroscience* 33(48),18932-18939
32. Iglesias S, Mathys C, Brodersen KH, Kasper L, Piccirelli M, **den Ouden HEM**, Stephan KE (2013). Hierarchical prediction errors in dopaminergic and cholinergic regions during sensory learning. *Neuron*, 80(2), 519-530
33. Geurts DEM, Huys QJM, **den Ouden HEM**, Cools RC (2013). Aversive Pavlovian control of instrumental behaviour in humans. *Journal of cognitive neuroscience*, 25(9), 1428-1441
34. Volman I, Verhagen L, **den Ouden HEM**, Toni I, Roelofs K (2013). Reduced serotonin transporter availability decreases prefrontal control of the amygdala. *Journal of neuroscience*, 33(21), 8974-8979
35. **den Ouden HEM**, Kok P, De Lange F (2012). Prediction errors in perception, attention and motivation. *Frontiers in Psychology*, 3, 548
36. Crockett MJ, Clark L, Roiser JP, Robinson OJ, Cools RC, Chase HW, **den Ouden H**, Apergis-Schoute A, Campbell-Meikeljohn, Seymour B, Sahakian BJ, Rogers RD, Robbins TW (2012). Converging evidence for central 5-HT effects in acute tryptophan depletion. *Molecular psychiatry*, 17(2), 121-123
37. Van Leeuwen T, **den Ouden HEM**, Hagoort P (2011). Effective connectivity determines subjective experiences in grapheme-color synesthesia. *Journal of Neuroscience*, 31(27), 9879-9884
38. **den Ouden HEM**, Daunizeau J, Roiser J, Friston KJ, Stephan KE (2010). Striatal prediction error drives cortical connectivity changes during associative learning. *Journal of Neuroscience*, 30(9), 3210-3219
- commentary on this article in Journal Club article de-Wit et al. *Journal of Neuroscience* 2010.
39. Daunizeau J, **den Ouden HEM**, Pessiglione M, Stephan KE, Kiebel SJ & Friston KJ (2010). Observing the observer(I): Meta-Bayesian models of learning and decision-making. *PloS One*, 5(12), e15554
40. Daunizeau J, **den Ouden HEM**, Pessiglione M, Stephan KE, Kiebel SJ & Friston KJ (2010). Observing the observer (II): Deciding when to decide. *PloS One*, 5(12), e15555
41. Van Schouwenburg M, **den Ouden HEM**, Cools RC (2010). The human basal ganglia modulate frontal-posterior connectivity during attention shifting. *Journal of Neuroscience*, 30(29), 9910-9918
42. Roiser JP, Stephan KE, **den Ouden HEM**, Friston KJ, & Joyce EM (2010). Adaptive and aberrant reward signals in the human brain. *NeuroImage*, 50(2), 657-664
43. Stephan KE, Penny WD, Moran RJ, **den Ouden HEM**, Daunizeau J, Friston KJ (2010). Ten simple rules for Dynamic Causal Modelling. *NeuroImage*, 49(4), 3099-3109
44. **den Ouden HEM**, Friston KJ, Daw ND, McIntosh AR, & Stephan KE (2009). A dual role for prediction error in associative learning. *Cerebral Cortex*, 19(5), 1175-1185
45. Roiser JP, Stephan KE, **den Ouden HEM**, Barnes TR, Friston KJ, & Joyce EM (2009). Do patients with schizophrenia exhibit aberrant salience? *Psychological medicine*, 39(2), 199-209

46. Stephan KE, Kasper L, Harrison LM, Daunizeau J, **den Ouden HEM**, Breakspear M, & Friston KJ (2008). Nonlinear dynamic causal models for fMRI. *NeuroImage*, 42(2), 649-662
47. Blakemore S-J, **den Ouden HEM**, Choudhury S, & Frith C (2007). Adolescent development of the neural circuitry for thinking about intentions. *Social Cognitive and Affective Neuroscience*, 2(2), 130-139
48. **den Ouden HEM**, Frith U, Frith C, & Blakemore S-J (2005). Thinking about intentions. *NeuroImage*, 28(4), 787-796
49. **den Ouden HEM**, van Ee ER, & de Haan EH (2005). Colour helps to solve the binocular matching problem. *Journal of Physiology*, 567(Pt 2), 665-671

Invited Book chapters

1. Volman I, **Den Ouden HEM**, Roelofs K. (2020) Emotional action control: the role of serotonin in health and disease. In *Genes, Brain and Emotions: From Resilience to Psychopathology*. Editors: Miu AC, Homberg JR, Lesch KP.
2. Cools R, **den Ouden HEM**, Ly V, Huys QJM, Cools R. (*in press*). How do emotions and cognition interact? In Fox, A. S., Lapate, R. C., Shackman, A. J. & Davidson, R. J. (Eds.), *The nature of emotion. Fundamental questions* (2nd edition). New York: Oxford University Press.

Teaching

International Teaching & Workshops

Each course includes lectures and workshops/tutorials. In the methodological courses, I teach on a range of topics, including brain connectivity (DCM, PPI) and other model-based fMRI analyses, Bayesian model comparison and behavioural models of reinforcement learning.

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|-------------|--|
| 2016-2018 | Computational Psychiatry Summer School, ETH Zurich, Switzerland |
| 2015-2019 | Neurocomputational approaches to Neuroimaging Toolkit, Donders Institute, Nijmegen, Netherlands |
| 2017 | Stress & Cognition Summer school: From basic mechanisms to psychopathology, Donders Institute, Nijmegen, Netherlands, speaker & co-organiser |
| 2015 | Neurocomputational approaches to Decision Making Summer School, Donders Institute, Nijmegen, Netherlands, speaker & co-organiser |
| 2013 | Summer school on Brain Networks and Neural Communication, Nijmegen, Netherlands |
| 2009 – 2016 | Advanced methods in Neuroimaging SPM course, ETH / University of Zurich |
| 2009 – 2014 | Advanced SPM short course, NeuroImage Nord, Hamburg, Germany |
| 2009 – 2014 | Donders Toolkit for Advanced fMRI Analysis, Donders Institute, Radboud University, Nijmegen. |
| 2007 – 2014 | SPM short course, Wellcome Trust Centre for Neuroimaging, UCL, London, UK |
| 2010 | A practical and theoretical introduction to fMRI, FENS satellite symposium, Utrecht University |
| 2006 – 2008 | Advanced methods in Neuroimaging SPM course, ETH / University of Zurich |

(Under)graduate Teaching*Course organiser / coordinator (incl. lectures)*

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|---------------|--|
| 2020- present | Psychopharmacology & Psychopathology. BSc Psychology, Faculty of Social Sciences, Radboud University (6ECTS). Coordinator & lecturer |
| 2017-present | Cognitive Neuropsychology. BSc Psychology, Faculty of Social Sciences, Radboud University (6ECTS). Coordinator & lecturer |
| 2016-2017 | Communication in Cognitive Neuroscience. MSc Cognitive Neuroscience, Donders Institute (6ECTS). Joint coordinator |
| 2017-present | Cognitive Control, MSc Cognitive Neuroscience, Donders Institute (6ECTS). Joint coordinator |

Lecturer

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|----------------|--|
| 2014 – 2019 | BSc Psychology, <i>Dopaminology</i> , Psychopharmacology and Psychopathology, Radboud University, Netherlands |
| 2009 – present | MSc Cognitive Neuroscience, <i>Brain Connectivity</i> , Neuroimaging II: Haemodynamic methods, Radboud University, Netherlands. Including tutorial session |
| 2013 – present | MSc Cognitive Neuroscience, <i>Dopamine and Reinforcement learning</i> , Cognitive Control, Radboud University, Netherlands |

- 2015 – present MSc Cognitive Neuroscience, *Cruise control or in control? The neural and cognitive mechanisms of reflective versus reflexive decision-making*, Cognitive Control, Radboud University, Netherlands
- 2015 – 2017 MSc Artificial Intelligence, *Reinforcement Learning*, Computational cognitive neuroscience. Radboud University, Netherlands. Including (development of) practical tutorial.
- 2010 – 2013 BSc Computer Science, *DCM and fMRI measures of effective connectivity*, Brain Dynamics & Connectivity, Radboud University Nijmegen, Netherlands
- 2007 – 2008 Course organiser, *Methods for Dummies*, Wellcome Trust Centre for Neuroimaging, University College London, UK

Academic Mentoring

Primary supervisor

- Floortje Spronkers, Radboud University, PhD student (2020 - present)
- Elena Mainetto, Radboud University, PhD student (2020 - present)
- Mojtaba Rostami Kandroodi, Radboud University, Visiting PhD student (2019 - present)
- Johannes Algermissen, Radboud University, PhD student (2017 - present)

Co-supervisor

- Benjamin Kop, Radboud University PhD student (2020 - present), with Dr. L Verhagen and Prof. P Medendorp
- Ping Chen, Radboud university, PhD student (2019-present), with Prof. R. Cools
- Dr. Xiaochen Zheng (2019-present), Radboud University, postdoctoral researcher, Language in Interaction Consortium, with Prof. R. Cools.

Alumni

- Dr. Vanessa Scholz (2018- 2020), Radboud University postdoctoral researcher, DFG postdoctoral fellowship
- Dr. Jennifer Swart, Radboud University, Research assistant (2013-2014) PhD student: (2014-2019): To go or not to go: On motivational biases in decision making. NWO Research Talent Grant. *Cum Laude*
- Dr. Annelies van Nuland, Radboud University MSc student (2013-2014): The role of striatal GABA in human reward processing (cum laude) PhD student (2015-2020): Molecular, structural and behavioural differences between tremor dominant and non-tremor Parkinson's disease – DCCN TopTalent grant
- Dr. Dirk Geurts (2010-2017), PhD Neuroscience / Psychiatrist in training, Radboud University *Neuropharmacology and psychiatry of Pavlovian-Instrumental transfer - Copromotor*
- Dr. Martine van Schouwenburg (2009-2011), PhD Cognitive Neuroscience

Fronto-striatal mechanisms of attentional control - Copromotor

- Joris van Elshout (2009-2010), post-graduate research assistant
- Dr. Kristin Schmidt (2010-2011), post-graduate research assistant
- Jessica Maatta (2015-2016), MSc Cognitive Neuroscience, Radboud University
Prefrontal theta: Credit assignment or Pavlovian control?
- Ahnjili Zhuparris (2016-2017), MSc Cognitive Neuroscience, Radboud University
Manipulating focus: the case of reversal learning
- Emma van Dijk (2016-2017), MSc Cognitive Neuroscience, Radboud University
Temporospatial dynamics of pavlovian control, a combined EEG-fMRI study

Outreach

Online Reinforcement Learning tutorial

I developed an online tutorial to get started with modelling of behavioural data using a reinforcement learning model. This popular Matlab-based tutorial has received **>10.000 unique visitors**, and consists of a full dataset, reversal learning task for the participant to complete, and a full step-by-step introduction to the theoretical and practical aspects of modelling behavioural data:

<http://hannekenouden.ruhosting.nl/RLtutorial/Instructions.html>

Primary school Education pack

In 2018, the lab was awarded the Radboud Science Award. Following this, we developed an education pack as part of the series 'Scientific breakthroughs in the classroom'.

Online teaching materials:

<https://www.wetenschapdeklasin.nl/activiteiten/automatisch-gedrag>

Award lecture for primary school children:

<https://youtu.be/brHpWSPbOXw>

Interview by primary school children about our research:

<https://youtu.be/vhtaMn9e7yU>

(all in Dutch)

Public Engagement

- Numerous blogs by lab members <https://blog.donders.ru.nl/> since 2016
- Podcast BBC Reel on smart drugs: <https://tinyurl.com/BBCsmartdrugs>, 2021
- Keynote Lecture. 1st Dutch Brain Olympiad. March 2019
- 2018-2020: Radboud Scientific Breakthroughs in the Classroom: translation of research to education package and book for primary schools, in context of Radboud Science award.
- Coach, Donders Education Hackathon 2016. 24-Hour hackathon aimed to develop innovative brain-inspired software solutions for education.
- Donders Institute Open Day, Live demonstration experiments: *Mind Reading & Fear in the Brain*, jointly with with Illusionist Victor Mids, Nijmegen, Netherlands, September 2016

- *Leren van je fouten*. Full-day workshop for psychiatric nursing staff, Psychiatrisch Centrum St. Amandus, Beernem, Belgium, March 2011
- Symposium “Verwongen vooruitblik, schizofrenie als verstoring van de neurobiologische fundering van voorbewuste geestesprocessen”. *Psychiatric Center St Amandus*, Beernem, Belgium, March 2011,
- *Brain Landing*. Live real-time fMRI experiment. DCCN Nijmegen & Paradiso Pop podium, Amsterdam, the Netherlands. March 2010
- *Learning from your mistakes*. Lecture for Dutch final year secondary school students, Liemers College Zevenaar, Netherlands, 2009
- *How your brain tries to predict the world*. Lecture for Dutch final year secondary school students, Lorenz College Arnhem, Netherlands, 2010
- *Can you see what I’m thinking?* Live real-time fMRI experiment for children (age 8-12). NEMO science museum, Amsterdam, October 2009

Selected media coverage

- **Radio:** BBC - The Naked Scientists, BBC (2014): <http://tinyurl.com/q8mnhh9>
- **Print:** The Guardian: In Praise of Uncertainty. (2013) <http://tinyurl.com/khhxabb>. De Telegraaf (Dutch newspaper, 2013).
- **Online media:** Psychology Today, Financial Post, PsychCentral, DailyNews, Medical Xpress, Alpha Galileo

Invited Talks

1. *Transatlantic Computational Psychiatry Workshop*, June 2021
2. *New York University*, Neuroeconomics seminar series, April 2021
3. *Karolinska Institutet*, ARC seminar series, October 2019
4. *University of Vienna*, Department of Psychology, December 2018
5. *Bernstein Centre for Computational Neuroscience*, Berlin, Germany, February 2017
6. *University of Zurich*, Department of Clinical Psychiatry, Switzerland, August 2016
7. *Institute of Cognitive Neuroscience*. UCL. UK. March 2016
8. *National Institutes of Health*, Affective Neuroscience and Pain Lab, USA, September 2015
9. *Cambridge University*, Department of Psychology. UK. October 2015
10. *Oxford University*, Department of Experimental Psychology. UK. June 2015
11. *Max Planck Institute for Human Cognition*, Leipzig, Germany, March 2015
12. *Charité Hospital*, Berlin, German, March 2015
13. *Oxford University*, Experimental Psychology Seminar Series, UK. October 2014.
14. *Danish Research Center for Magnetic Resonance*, Global Excellence lecture, Hvidovre Hospital, Copenhagen, Denmark. October 2014.
15. *Technical University Madrid*, Centre for Biomedical Technology, Madrid, Spain. September 2014.
16. *University College London*, ICN seminar Series, Institute of Cognitive Neuroscience, UK, May 2014
17. *Harvard Medical School*, Department of Molecular & Cellular Biology, April 2013
18. *Neuroimage Nord*, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany, April 2013
19. *University of Groningen*, Research Discussion Series, Department of Psychiatry, April 2013
20. *Cornell University*, Sackler Science series, Weil Medical College, September 2012
21. *Aarhus University*, Keynote lecture, Annual retreat, Mindlab, Denmark, August 2012

22. *Rutgers University*, Center for Molecular and Behavioural Neuroscience, USA, November 2011
23. *University of Amsterdam*, Amsterdam center for the study of adaptive control in brain and behavior, Netherlands, March 2011
24. *University of Hamburg*, Brown Bag seminar, NeuroImage Nord, Germany, September 2009
25. *Oxford University*, FMRIB seminar series, Oxford, UK, January 2009
26. *Cambridge University*, Department of Psychology, UK, December 2008
27. *Ecole Normale Supérieure*, Seminar series, Département des Etudes Cognitives, France, October 2008

Conference Talks

1. FENS Brain Conference on the Neuroscience of Prediction, Copenhagen, Denmark, April 2018
2. Presidential symposium ACP, Vienna, October 2017 (invited, declined)
3. ICON 2017, Maladaptive Decision making Symposium, Amsterdam, August 2017
4. ICON 2017, fMRI Connectivity Methods Symposium, Amsterdam, August 2017
5. Summer School Stress & Cognition: From basic mechanisms to psychopathology, Donders Institute, August 2017
6. Computational Psychiatry Course, Zurich, September 2017
7. Dutch Neuroscience Meeting symposium, June 2017
8. Cognitive Neurosciences (CNS) symposium, March 2017
9. Computational Psychiatry Symposium, Donders Institute, December 2016
10. Control Processes Meeting, Datablitz Session, La Jolla, November 2016
11. Computational Psychiatry Course, Zurich, September 2016
12. British Association of Psychopharmacology, July 2016, speaker – plenary symposium: *New perspectives on functions of 5-HT sub-systems*
13. Biological Psychiatry, May 2016, speaker – symposium: The computational neuroscience of disrupted learning and memory in depression
14. NVP Winter Conference, December 2015. Symposium: *The brain in control*
15. Federation for European NeuroSciences annual conference, Milan, Italy, July 2014
16. Neuroplasticity symposium, Dopamine 2013, Sardinia, Italy, May 2013
17. Neuroimaging in Psychiatry Symposium, University of Groningen, April 2013
18. Workshop on Dynamic Causal Modelling, Brain & Spine Institute (ICM) Paris, France, August 2012
19. Workshop on model-based cognitive neuroscience, University of Amsterdam, November 2012
20. European Science Foundation Workshop on Attention, Motivation and Action, Copenhagen, August 2012
21. Attention, Expectation and Awareness workshop, *Columbia University*, New York, USA, November 2011
22. Annual meeting of Human Brain Mapping, Chicago, May 2009
23. Schizophrenia Workshop, University College London, UK, March 2006
24. EndoNeuroPsycho meeting, Doorwerth, The Netherlands, June 2006
25. Touch, Blindness & neuroscience meeting, UNED, Madrid, Spain, October 2002

Organised Symposia / Conferences

1. NVP Winter Conference on Brain and Cognition – chair of the scientific committee, Dec 2021, Egmond aan Zee
2. NVP Winter Conference on Brain and Cognition – chair of the scientific committee, Dec 2019, Egmond aan Zee
3. NVP Winter Conference on Brain and Cognition – scientific committee member , Dec 2017, Egmond aan Zee
4. Decision-making & Control, Symposium Control Processes Meeting, Oct 2017, Amsterdam
5. Maladaptive decision-making Symposium, ICON, Aug 2017, Amsterdam
6. Program Committee program committee, Reinforcement Learning and Decision Making Workshop, June 2017, Ann Arbor
7. Donders Stress & Cognition Summerschool - Session chair Day 3, Aug 2017, Nijmegen
8. Symposium, Biological Psychiatry, May 2016, Atlanta, USA
9. Symposium, Dutch Neuroscience Meeting, Title: When affect meets effect: A translational view on how motivation influences action, June 2015, Lunteren, Netherlands
10. Workshop *How cognitive neuroscience can guide therapy*, Royal Netherlands Academy of Arts and Sciences, 2013, Amsterdam.

Professional Service

Consulting Editor

Cognitive, Affective and Behavioural Neuroscience (CABN)

Associate Editor

Journal of Neuroscience

Editorial Board Member

Royal Society Open Science

Journal review

Acta Psychologica, Biological Psychiatry, Brain, Cerebral Cortex, Computational Psychiatry, Cortex, Current Biology, Developmental Cognitive Neuroscience, eLife, Journal of Cognitive Neuroscience, Journal of Neuroscience, Molecular Psychiatry, Nature Communications, Neural Networks, NeuroImage, Neuron, Neuroscience and Biobehavioural Reviews, Psychological Science, Social Cognitive and Affective Neuroscience (SCAN), PLoS Computational Biology, PLoS ONE, Psychopharmacology, PNAS, Wiley Interscience Reviews (WIRE)

Grant Review

DFG – Collaborative Research Centre Grant, Freie Universitaet Berlin, evaluation committee member
ERC – Starting Grant Programme

Fonds de recherche du Québec

FWO - Flemisch Fund for Scientific Research

NWO - Netherlands Organisation for Scientific Research

Wellcome Trust

Thesis Examination

2021	Amsterdam DBS
2021	Naomi de Haas
10/2019	Lieke de Boer, Karolinska Institutet, Sweden, External examiner
01/2019	Miles Wischnewski, Radboud University, Donders Institute. Examiner
05/ 2017	Louise Marshall, UCL Institute of Neurology, UK. External examiner
12/2016	Tobias Navarro Schroeder, Radboud University, Donders Institute. Examiner
12/2016	Payam Piray, Radboud University, Donders Institute. Examiner
2014 - 2018	James DeRaeve, University of Ghent. External member of thesis committee
06/2016	Shiuyan Liu, Charite University Berlin, Medical Faculty. Examiner
06/2015	Joern Horschig, Radboud University, Donders Institute. Examiner
06/2015	Ana Todorovic, Radboud University, Donders Institute. Examiner

Institutional Organisation

2016-present	<i>Growing Up in Science bimonthly lecture series.</i> Donders Institute. Lecture series that I initiated and organise, about becoming and being a scientist, by senior scientists, for PhDs and postdocs. see tinyurl.com/ya69t8tw . Main organiser
2017	Chair Sustainable Science Committee Donders Institute, Focus group Postdoctoral career trajectory. Developed / implemented postdoctoral career development plan.

Professional Disclosure

2017	Consulting session for Lundbeck pharmaceuticals, but does not own stocks or shares, nor is an employee.
2015	Data analysis consultant for Eleusis Benefit Corp, but does not own stocks or shares, nor is an employee.

Academic leave of absence

2017-2018	Maternity leave, 8 months
2019-2020	Maternity leave, 11 months