Janneke F.M. Jehee
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Professor & Principal Investigator
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Academic Positions

2025-present Professor of Psychology, Faculty of Social Sciences, Radboud University, Netherlands
2017-present Principal Investigator (tenured), Center for Cognitive Neuroimaging, Donders Institute for Brain, Cognition and Behavior, Radboud University, Netherlands
2010-2016 Tenure-track Principal Investigator, Center for Cognitive Neuroimaging, Donders Institute for Brain, Cognition and Behavior, Radboud University, Netherlands
2007-2010 Postdoctoral Fellow, Department of Psychology, Vanderbilt University, TN
2005-2007 Postdoctoral Fellow, Center for Visual Science and Department of Computer Science, University of Rochester, NY

Education

2006 Ph.D. in Psychology, University of Amsterdam, Netherlands
2000 M.A. in Psychology, University of Amsterdam, Netherlands

Grants and Fellowships

2025-2026 DI-NIN grant, Donders Institute and Netherlands Institute for Neuroscience (Role: PI, with Ilona Bloem and Serge Dumoulin, €100,000)
2024-2029 R01 grant, National Institutes of Health, National Eye Institute (grant number R01EY035640, Role: Multi-PI, with Sam Ling, Boston University, $1,753,715)
2023-2027 MSCA Doctoral Networks grant, Horizon Europe (grant number 101119647, Role: PI, coordinator, €2,745,785)
2016-2022 ERC Starting grant, European Research Council (grant number 677601, Role: PI, €1,500,000)
2016-2019 ALW Open Competition grant, Netherlands Organization for Scientific Research (NWO) (grant number 824.15.016, Role: PI, €262,663; declined to accept ERC Starting Grant)
2014-2018 Marie Curie FP7-PEOPLE-2013-ITN Innovative Doctoral Program (IDP) grant, European Union (grant number 604063, Role: co-PI, together with 10 others, €3,349,230)
2010-2014 Marie Curie International Re-integration grant, European Union (grant number 256456, Role: PI, €100,000)
2007-2009 Postdoctoral research fellowship, Netherlands Organization for Scientific Research (NWO) (grant number 446-06-030, Role: PI, €67,620)
2004 National Computer Facilities (NCF) grant, Netherlands Organization for Scientific Research (Role: co-author, together with HPC support center SARA, Amsterdam, Netherlands, €20,600)

Honors and Awards

2018 Vanderbilt University Early Career Award
2017 Vision Sciences Society (VSS) Young Investigator Award
2006 Travel award, Marine Biological Laboratory, Woods Hole, MA
2004 Travel award, International Conference on Cognitive and Neural Systems, Boston University, Boston, MA

2003 Travel award for a 2-month visit to Gustavo Deco's lab (in Barcelona, Spain), Department of Psychology, Amsterdam University, Netherlands

Publications

van Bergen, R.S., & **Jehee**, J.F.M. (preprint). TAFKAP: An improved method for probabilistic decoding of cortical activity. *bioRxiv*. doi:10.1101/2021.03.04.433946

Rahnev, D., Block, N., Denison, R., & **Jehee**, J.F.M. (preprint). Is perception probabilistic? Clarifying the definitions. *PsyArXiv*. doi:10.31234/osf.io/f8v5r

Geurts, L.S., Ling, S., & **Jehee**, J.F.M. (2024). Pupil-linked arousal modulates precision of stimulus representation in cortex. *Journal of Neuroscience*, *44*, e1522232024*. doi:10.1523/JNEUROSCI.1522-23.2024*

Takashima, A., Carota, F., Schoots, V., Redmann, A., **Jehee**, J.F.M., & Indefrey, P. (2024). Tomatoes are red: The perception of achromatic objects elicits retrieval of associated color knowledge. *Journal of Cognitive Neuroscience*, *36*, 1-22. doi:10.1162/jocn_a_02068

Chetverikov, A. & **Jehee**, J.F.M. (2023). Motion direction is represented as a bimodal probability distribution in the human visual cortex. *Nature Communications*, *14*, 7634*. doi:10.1038/s41467-023-43251-w*

van Mourik, T., Koopmans, P.J., Bains, L.J., Norris, D.G., & **Jehee**, J.F.M. (2023). Investigation of layer specific BOLD in the human visual cortex during visual attention. *Aperture Neuro*, *Aug. 2023*, 1-18. doi:10.52294/001c.87638

Geurts, L.S., Cooke, J.R.H., van Bergen, R.S., & **Jehee**, J.F.M. (2022). Subjective confidence reflects representation of Bayesian probability in cortex. *Nature Human Behaviour*, *6*, 294-305. doi:10.1038/s41562-021-01247-w

See for an independent commentary on this work:
Mamassian, P. (2022). *Nature Human Behaviour*. doi:10.1038/s41562-021-01248-9

Rahnev, D., et al. (2022). Consensus goals for the field of visual metacognition. *Perspectives on Psychological Science*, *17*, 1746–1765. doi:10.1177/17456916221075615

Bertana, A., Chetverikov, A., van Bergen, R.S., Ling, S., & **Jehee**, J.F.M. (2021). Dual strategies in human confidence judgments. *Journal of Vision*, *21,* 21. doi:10.1167/jov.21.5.21

van Bergen, R.S., & **Jehee**, J.F.M. (2019). Probabilistic representation in human visual cortex reflects uncertainty in serial decisions. *Journal of Neuroscience*, *39*, 8164-8176. doi:10.1523/jneurosci.3212-18.2019

See for an independent commentary on this work:
de Azevedo Neto, RM. (2020). doi:10.3389/fnhum.2020.580581

Geurts, L.S., Chetverikov, A., Van Bergen, R.S., Zhou, Y.J., Bertana, A., & **Jehee**, J.F.M. (2018). Optimality is critical when it comes to testing computation-level hypotheses. *Behavioral and Brain Sciences*, *41*, e231. doi:10.1017/S0140525X18001450

van Bergen, R.S., & **Jehee**, J.F.M. (2018). Modeling correlated noise is necessary to decode uncertainty. *NeuroImage*, *180*, 78-87. doi:10.1016/j.neuroimage.2017.08.015

Moerel, D., Ling, S., & **Jehee**, J.F.M. (2016). Perceptual learning increases orientation sampling efficiency. *Journal of Vision, 16:36*, 1-9. doi:10.1167/16.3.36

van Bergen, R.S., Ma, W.J., Pratte, M.S., & **Jehee**, J.F.M. (2015). Sensory uncertainty decoded from visual cortex predicts behavior. *Nature Neuroscience, 18*, 1728-30. doi:10.1038/nn.4150

Ling*, S., **Jehee***, J.F.M., & Pestilli*, F. (2015). A review of the mechanisms by which attentional feedback shapes selectivity. *Brain Structure and Function*, *220*, 1237-50. doi:10.1007/s00429-014-0818-5

* These authors contributed equally to this work.

Bosch, S, **Jehee**, J.F.M., Fernández, G., & Doeller, C.F. (2014). Reinstatement of associate memories in early visual cortex is signaled by the hippocampus. *Journal of Neuroscience, 34,* 7493-7500. doi:10.1523/JNEUROSCI.0805-14.2014

Jehee, J.F.M., Ling, S., Swisher, J.D., van Bergen, R.S., & Tong, F. (2012). Perceptual learning selectively refines orientation representations in early visual cortex. *Journal of Neuroscience, 32,* 16747-16753. doi:10.1523/JNEUROSCI.6112-11.2012

Kok, P., **Jehee**, J.F.M., & de Lange, F.P. (2012). Less is more: Expectation sharpens representations in the primary visual cortex. *Neuron, 75*, 265-270. doi:10.1016/j.neuron.2012.04.034

Ballard, D.H., & **Jehee**, J.F.M. (2012). Dynamic coding of signed quantities in cortical feedback circuits. *Frontiers in Psychology, 3*. doi:10.3389/fpsyg.2012.00254

Jehee, J.F.M., Brady, D.K., & Tong, F. (2011). Attention improves encoding of task-relevant features in the human visual cortex. *Journal of Neuroscience, 31*, 8210-8219. doi:10.1523/JNEUROSCI.6153-09.2011

Kok, P., Rahnev, D., **Jehee**, J.F.M., Lau, H.C., & de Lange, F.P. (2011). Attention reverses the effect of prediction in silencing sensory signals, *Cerebral Cortex, 9*, 2197-206. doi:10.1093/cercor/bhr310

Ballard, D.H., & **Jehee**, J.F.M. (2011). Dual roles for spike signaling in cortical neural populations. *Frontiers in Computational Neuroscience, 5*. doi:10.3389/fncom.2011.00022

Jehee, J.F.M., & Ballard, D.H. (2009). Predictive feedback can account for biphasic responses in the lateral geniculate nucleus. *PLoS: Computational Biology, 5*. doi:10.1371/journal.pcbi.1000373

Jehee, J.F.M., & Murre, J.M.J. (2008). The scalable mammalian brain: Emergent distributions of glia and neurons. *Biological Cybernetics, 98*, 439-445. doi:10.1007/s00422-008-0228-y

Jehee, J.F.M., Lamme, V.A.F., & Roelfsema, P.R. (2007). Boundary assignment in a recurrent network architecture. *Vision Research, 47,* 1153-1165. doi:10.1016/j.visres.2006.12.018

Jehee, J.F.M., Roelfsema, P.R., Deco, G, Murre, J.M.J., & Lamme, V.A.F. (2007). Interactions between higher and lower visual areas improve shape selectivity of higher level neurons – explaining crowding phenomena. *Brain Research, 1157,* 167-176. doi:10.1016/j.brainres.2007.03.090

Meeter, M., **Jehee**, J.F.M., & Murre, J.M.J. (2007). Neural models that convince: Model hierarchies and other strategies to bridge the gap between behavior and the brain. *Philosophical Psychology, 20*, 749-772. doi:10.1080/09515080701694128

Jehee, J.F.M., Rothkopf, C., Beck, J.M., & Ballard, D.H. (2006). Learning receptive fields using predictive feedback. *Journal of Physiology – Paris, 100,* 125-132. doi:j.jphysparis.2006.09.011

Invited Talks and Colloquia

Invited Seminars

6/2025	University College London, London, UK
4/2025	Swammerdam Institute for Life Sciences, Amsterdam, NL
6/2023	Institut de Neurosciences de la Timone, Marseille, France (virtual)
5/2023	Stanford University, Stanford, CA
4/2023	University Medical Center Hamburg-Eppendorf, Hamburg, Germany (virtual)
9/2022	Netherlands Institute for Neuroscience & Spinoza Centre for Neuroimaging, Amsterdam, NL
9/2022	International Interdisciplinary Computational Cognitive Science Summer School, Tübingen, Germany (virtual)
7/2022	Max Planck School of Cognition, Dresden, Germany (virtual)
6/2022	International Max Planck Research School on Neuroscience of Communication, Leipzig, Germany (virtual)

4/2022 University College London, London, UK (virtual)
1/2021 Bernstein Center for Computational Neuroscience, Berlin, Germany (virtual)
11/2020 Zurich Center for Neuroeconomics, Zurich, Switzerland (virtual)
04/2020 University of Cambridge, Cambridge, UK (canceled due to the Covid-19 pandemic)
5/2019 Boynton Colloquium, University of Rochester, Rochester, NY
5/2019 Early Career Award winner talk, Vanderbilt University, Nashville, TN
9/2018 Helmholtz lecture, Utrecht University, Utrecht, Netherlands
6/2018 NeuroSpin, CEA-Saclay, France
8/2017 Free University, Amsterdam, Netherlands
10/2016 Central European University, Budapest, Hungary
9/2016 University of Oxford, Oxford, UK
9/2014 University of Amsterdam, Amsterdam, Netherlands
9/2013 University of Leuven, Leuven, Belgium
3/2013 University of Barcelona, Barcelona, Spain
1/2013 University of Amsterdam, Amsterdam, Netherlands
3/2012 Radboud University, Nijmegen, Netherlands
2/2012 Utrecht University, Utrecht, Netherlands
6/2009 Donders Center for Cognitive Neuroimaging, Nijmegen, Netherlands
5/2007 University of Leuven, Leuven, Belgium
4/2007 Vanderbilt University, Nashville, TN
2/2005 University of Rochester, Rochester, NY

Invited Conference Presentations

9/2024 Plenary talk, The 2024 Tübingen Systems Neuroscience Symposium, Tübingen, Germany
6/2024 Keynote lecture, The Adaptive Mind Young Pro Retreat, Rauischholzhausen, Germany
5/2024 Dana Ballard Memorial Symposium, IEEE International Conference on Development and Learning (ICDL), University of Texas at Austin, TX (virtual)
9/2023 Keynote lecture, International Symposium on the Mathematics of Neuroscience, Rhodes, Greece
3/2023 Workshop on decision uncertainty and confidence, Cosyne, Montréal, Canada
7/2022 Keynote lecture, Perceptual Metacognition Meeting (satellite event of the Annual Meeting of the Association for the Scientific Study of Consciousness), Amsterdam, Netherlands
7/2021 Elman symposium, Annual Meeting of the Cognitive Science Society (virtual)
7/2021 Salzburg Mind-Brain Annual Meeting, Salzburg, Austria (virtual)
6/2021 Workshop Perceptual Confidence and Uncertainty, Paris, France (virtual)
11/2019 Workshop Generative Perception, Matera, Italy
3/2018 Workshop Probabilistic Brain, Durham, UK
2/2018 Workshop Computational Modeling of Decision Making, Paris, France
12/2017 Symposium on perceptual decision-making, biannual NVP Conference on Brain and Cognition, Egmond aan Zee, Netherlands
5/2017 Young Investigator Award winner talk, Annual Meeting of the Vision Sciences Society, FL
8/2016 Symposium Inversion Problems in Vision Science, European Conference on Visual Perception, Barcelona, Spain
6/2015 Workshop on predictive coding, University of Amsterdam, Amsterdam, Netherlands
12/2011 Symposium Perception & Decision Making, biannual NVP Conference on Brain and Cognition, Egmond aan Zee, Netherlands

Professional Activities

2024-present External member of search committee for director position at the Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2023-present Chair of supervisory board of Horizon Europe MSCA Doctoral Network 'CODE' (Confident Decisions, grant number 101119647)
2024-present Guest editor, PLoS Computational Biology

Ad-Hoc Reviewer

Granting agencies German Research Foundation (Germany), French National Research Agency (France), Medical Research Council (UK), National Science Foundation (USA), Research Foundation Flanders (Belgium), Wellcome Trust (UK)

Journals Biological Cybernetics, Brain and Cognition, Cerebral Cortex, Cognition, Cortex, Current Biology, eLife, Frontiers in Computational Neuroscience, Journal of Cognitive Neuroscience, Journal of Neurophysiology, Journal of Neuroscience, Journal of Vision, Nature Communications, Nature Human Behaviour, Nature Neuroscience, Neural Computation, Neural Networks, NeuroImage, Neurons Behavior Data analysis and Theory, PLoS Biology, PLoS Computational Biology, PLoS ONE, Psychological Science, Psychonomic Bulletin & Review

Workshops and Meetings Organized

2022 European Conference on Visual Perception (main meeting), Nijmegen, Netherlands (with 14 others)
2022 Workshop Encoding and Decoding Models in Neuroimaging, European Conference on Visual Perception, Nijmegen, Netherlands
2022 Symposium Computational Perspectives on Perceptual Confidence, European Conference on Visual Perception, Nijmegen, Netherlands (with Laura Geurts)
2020 Workshop Probabilistic Perception (virtual), Generative Adversarial Collaborations, Cognitive Computational Neuroscience Conference (with Doby Rahnev, Ned Block & Rachel Denison)
2013 Symposium Malleability of Visual Processing, biannual NVP Conference on Brain and Cognition, Egmond aan Zee, Netherlands (with Jan Brascamp)

University Service

2012-present Member of examination board of the cognitive neuroscience master's program, School of Psychology and Donders Institute
2010-present Departmental PI meetings, Center for Cognitive Neuroimaging, Donders Institute
2014-2018 Work package leader of FP7-PEOPLE-2013-ITN project
2017 Member of search committee for principal investigator position in cognitive neuroscience, Donders Institute
2013-2015 Deputy chair and member of research infrastructure committee (RIC), Center for Cognitive Neuroimaging, Donders Institute
2014 Member of search committee for senior researcher position in MR Physics, Donders Institute
2013 Member of search committee for ICT system manager position, Donders Institute
2010 Member of search committee for principal investigator position in cognitive neuroscience, Donders Institute

Teaching and Advising

Courses Taught

2010-present Communication in cognitive neuroscience (SOW-DGCN28), graduate-level, course coordinator and main lecturer, School of Psychology & Donders Institute
2010, 2021 fMRI toolkit, graduate-level, guest lecture, Donders Institute
2021 Perception (SOW-DGCN44), graduate-level, guest lecture, School of Psychology & Donders Institute

2011-2015 Perception (SOW-DGCN44), graduate-level, guest lecture, School of Psychology & Donders Institute
2015 HealthPAC winter school, graduate-level, guest lecture, Donders Institute
2013 Bayesian neurocognitive modeling (SOW-MKI49), graduate-level, guest lecture, School of Psychology & Donders Institute
2012 Artificial intelligence colloquium, (under)graduate-level, guest lecture, School of Psychology & Donders Institute

Postdoctoral Trainees

Ilona Bloem (2023-present)
Awarded a FoVea travel award (2023)
James Cooke (2019-present)
Laura Geurts (2021-2022; next position: researcher at Central Bureau for Statistics Netherlands)
Andrey Chetverikov (2017-2021/2022, next position: staff scientist at Donders Institute/ Assistant Professor at Bergen University, Norway)
Awarded a Vision Sciences Society Student Travel Fellowship (2020)
Awarded a Radboud Excellence postdoctoral fellowship (2017-2019)
Rosanne Rademaker (2020, next position: Max Planck group leader at ESI Frankfurt, Germany)
Awarded a Marie Skłodowska-Curie postdoctoral fellowship (2018-2020)
Ruben van Bergen (2016-2018, next position: postdoc at Columbia University, NY)
Awarded a Vision Sciences Society Student Travel Fellowship (2017)
Awarded prize for best poster at NVP Conference on Brain and Cognition (2017)

PhD Students

Thomas Hawkins (2024-present)
Rodrigo Raimundo-Ramos (2024-present)
Yuxuan Dai (2023-present)
Awarded graduate research scholarship from the China Scholarship Council (2023-2027)
Yin Joey Zhou (co-advised with Saskia Haegens and Floris de Lange; 2017-2021, next position: postdoc at Oxford University, UK)
Awarded travel fellowship for visiting the European Summer School of Vision, Rauischholzhausen, Germany (2021)
Laura Geurts (2016-2021, next position: postdoc at Donders Institute)
Awarded a Vision Sciences Society Student Travel Fellowship (2021)
Awarded travel fellowship for visiting the European Summer School of Vision, Rauischholzhausen, Germany (2021)
Awarded prize for best poster at NVP Conference on Brain and Cognition (2019)
Andrea Bertana (2014-2021; next position: data scientist)
Tim van Mourik (co-advised with David Norris, 2014-2018; next position: postdoc at Donders Institute)
Ruben van Bergen (2012-2016, next position: postdoc at Donders Institute)
Awarded the Radboud UMC Sensory Disorders Talent Award (2016)
Awarded prize for best poster at Donders Institute end-of-year poster session (2014)
Awarded prize for best abstract at Donders Discussions conference (2014)
Awarded travel fellowship for visiting the European Summer School of Vision, Rauischholzhausen, Germany (2014)
Juraj Mesik (visiting graduate student from University of Minnesota, 2015-2016, next position: postdoc at University of Minnesota, MN)
Rosanne Rademaker (visiting PhD student from Maastricht University, 2013-2015, next position: postdoc at University of California, San Diego, CA)
Awarded travel fellowship for visiting the European Summer School of Vision, Rauischholzhausen, Germany (2014)
Sander Bosch (co-advised with Christian Doeller, 2011-2015, next position: postdoc at Donders Institute)

MSc Students

Leni Wei (2023-2024, next position: research assistant at Donders Institute)
Marc Pabst (2022-2023, next position: research assistant at University College London, UK)
Gwennyth Spruijtenburg (2017-2018, next position: trainee at Nijmegen city government)
Laura Geurts (2016, next position: PhD student at Donders Institute)
Joachim de Ronde (2014-2015, next position: graduate student at Concordia University, Canada)
Denise Moerel (2013-2014, next position: research assistant at Macquarie University, Australia)
Ilona Bloem (co-advised with Sam Ling, 2013-2014, next position: graduate student at Boston University, MA)
Awarded a travel fellowship from the Hendrik Muller Foundation for visiting the co-advisor's lab
Sridhar Jagannathan (2012-2013, next position: graduate student at Oxford University, UK)
Jasper Fabius (2012, next position: PhD student at Utrecht University, Netherlands)

Research Assistants

Klaudia Ambroziak (2013-2015, next position: graduate student at University of London, UK)
Ruben van Bergen (2011-2012, next position: PhD student at Donders Institute)

PhD Thesis Committees

Matthias Fritsche (Donders Institute, 2020), Pim Mostert (Donders Institute, 2019), Morgan Spence (University of Queensland Australia, 2018), Barrie Klein (University Utrecht, 2018), Katharine Shapcott (Donders Institute, 2017), Jim Herring (Donders Institute, 2017), Jeroen Atsma (Donders Institute, 2017), Eelke Spaak (Donders Institute, 2015), Frank Leoné (Donders Institute, 2014), Iris Groen (University of Amsterdam, 2014), Joke Kalisvaart (Donders Institute, 2013), Marijke Brants (University of Leuven, 2013), Tessa van Leeuwen (Donders Institute, 2011), Ingrid Nieuwenhuis (Donders Institute, 2010)

Public Outreach

2010-present Interviews about my lab's work for both local and national (web) magazines and newspapers. For recent examples, see:
https://scientias.nl/we-hebben-allemaal-een-mini-rivm-in-onze-hersenpan-zitten/
https://www.radboudrecharge.nl/nl/artikel/onze-hersenen-zijn-een-rivm-in-het-klein

2010-present Many lectures and demos by both me and members of my lab at local high schools, science fairs, science museums, etc.

2012 Keynote presentation for Brain Awareness Week event, Donders Institute

2008-2009 Several presentations at the Adventure Science Center, Nashville TN