

## Dr. Ruud Hortensius

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### Current Position

2017 – present *Postdoctoral Researcher*

*From April 2018:* Institute of Neuroscience and Psychology, University of Glasgow, Scotland, UK

*From January 2017 – April 2018:* School of Psychology, Bangor University, Wales, UK

Advisor: Prof. Emily S. Cross

### Previous position

2015 – 2016 *Postdoctoral Researcher*

Department of Psychiatry and Mental Health, University of Cape Town, South Africa

Department of Cognitive Neuroscience, Maastricht University, The Netherlands

Advisors: Prof. Dan J. Stein and Prof. Beatrice de Gelder

### Education

2016 *PhD, Cum Laude* Department of Medical and Clinical Psychology, Tilburg University, The Netherlands. Advisor: Prof. Beatrice de Gelder. Thesis available [here](#).

2011 *MSc* Neuroscience and Cognition, Utrecht University, The Netherlands

2008 *BSc, Cum Laude* Psychology, Major: Cognitive Neuroscience, Utrecht University, The Netherlands

2005 *BSc* Social Work, University of Applied Sciences Utrecht, The Netherlands

### Honours and Grants

2019 Flexible Talent Mobility Award, BBSRC (UK). £920.

2018 Bial Scientific Research Grant (principle investigator), Bial Foundation (Portugal). €40,000

2017 Creative Practitioner-in-Residence (co-applicant), ESRC (UK). £7,479

2017 EPS Research Workshop Grant (co-applicant), Experimental Psychology Society (UK), for ‘The Emerging Social Neuroscience of Human-Robot Interaction’ workshop held in Bangor. £2,500

2016 Professors’ Fund, Maastricht University (NL). €2,500

2015 Van der Gaag Grant, Royal Netherlands Academy of Arts and Sciences (NL). €3,400

2015 Erasmus+ grant, European Commission, Education & Training (EU). €1,409

2014 Best presentation, International Summer School in Social Cognitive Neuroscience, Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy.

2010 Travel grant for visit Texas A&M University, K.F. Hein Society (NL). €2,000

2006 – 2008 Honours student, University wide Honours Minor, Utrecht University.

**Publications (\* shared authorship)**

- Cross E.S.\*, **Hortensius R.\*** & Wykowska A.\* (*in press*). From social brains to social robots: Applying neurocognitive insights to human-robot interaction. *Philosophical Transactions of the Royal Society B: Biological Sciences*.
- Cross E.S., Riddoch A.R., Pratts J., Titone S., Chaudhury B. & **Hortensius R.** (*in press*). A neurocognitive investigation of the impact of socialising with a robot on empathy for pain. *Philosophical Transactions of the Royal Society B: Biological Sciences*. Preprint: <https://www.biorxiv.org/content/early/2018/11/29/470534>
- Hortensius R.**, Hekele, F. & Cross E.S. (2018). The perception of emotion in artificial agents. *IEEE Transactions on Cognitive and Developmental Systems*, 10:852-864.
- Hortensius R.\*** & Cross E.S.\* (2018). From automata to animate beings: The scope and limits of attributing socialness to robots. *Annals of the New York Academy of Sciences*, 426:93-110.
- Hortensius R.** & de Gelder B. (2018). From empathy to apathy: The bystander effect revisited. *Current Directions in Psychological Science*, 27:249-256.
- Hortensius R.**, Neyret S., Slater M. & de Gelder B. (2018). The relation between bystanders' behavioral reactivity to distress and later helping behavior during a violent conflict in virtual reality. *PLoS ONE*, 3:e0196074.
- Seinfeld S., Arroyo-Palacios J., Iruretagoyena G., **Hortensius R.**, Zapata L.E., Borland D., de Gelder B., Slater M., Sanchez-Vives M.V.V. (2018). Offenders become the victim in virtual reality: impact of changing perspective in domestic violence. *Scientific reports*, 8:2692.
- Poyo Solanas M., Zhan, M., Vaessen, M., **Hortensius R.**, Engelen T. & de Gelder, B (2018). Looking at the face and seeing the whole body. Neural basis of combined face and body expression. *Social Cognitive and Affective Neuroscience*, 13:135-144.
- Kelley N.J., **Hortensius R.**, Schutter, D.J.L.G. & Harmon-Jones E. (2017). On the relationship of approach/avoidance motivation and asymmetric frontal cortical activity: A review of studies manipulating frontal asymmetry. *International Journal of Psychophysiology*, 119:19-30.
- Hortensius R.**, Terburg D., Morgan B., Stein D., van Honk J. & de Gelder B. (2017). The basolateral amygdalae and frontotemporal network functions for threat perception. *eNeuro*, 0314-16.2016.
- Hortensius R.**, Terburg D., Morgan B., Stein D., van Honk J. & de Gelder B. (2017). The dynamic consequences of amygdala damage on fear processing in Urbach-Wiethe Disease. *Cortex*, 88:192-197.
- Hortensius R.**, & de Gelder B. & Schutter D.J.L.G. (2016). When anger dominates the mind - increased motor corticospinal excitability in the face of threat. *Psychophysiology*, 53: 1307-1316.
- Hortensius R.**, Schutter D.J.L.G. & de Gelder B. (2016). Personal distress and the influence of bystanders on responding to an emergency. *Cognitive, Affective, Behavioral Neuroscience*, 16:672-688.
- Hortensius R.**, Terburg D., Morgan B., Stein D., van Honk J. & de Gelder B. (2016). The role of the basolateral amygdala in the perception of faces in natural contexts. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 20150376.
- Zhan M., **Hortensius R.** & de Gelder B. (2015). The body as a tool for anger awareness - Differential effects of facial and bodily expressions of anger on suppression from awareness. *PLoS ONE*, 10:e0139768.
- Van den Stock J., **Hortensius R.**, Sinke S., Goebel R. & de Gelder B. (2015). Personality traits predict brain activation and connectivity when witnessing a violent conflict. *Scientific Reports*, 5:13779.

- Hortensius R.**, van Honk J., de Gelder B. & Terburg, D. (2014). Trait dominance promotes reflexive staring at masked angry body postures. *PLoS ONE*, 9:e116232.
- Hortensius R.** & de Gelder B. (2014). The neural basis of the bystander effect - The influence of group size on neural activity when witnessing an emergency. *NeuroImage*, 93:53-58.
- de Gelder B., Terburg D., Morgan B., **Hortensius R.**, Stein J. & van Honk J. (2014). The role of human basolateral amygdala in ambiguous social threat perception. *Cortex*, 52:28-34.
- de Gelder B. & **Hortensius R.** (2014). The many faces of the emotional body. In J. Decety and Y. Christen (Eds). *New Frontiers in Social Neuroscience*. Berlin: Springer Verlag.
- Price T.F., **Hortensius R.** & Harmon-Jones E. (2013). Neural and behavioral associations of manipulated determination facial expressions. *Biological Psychology*, 94:221-227.
- Kelley N.J., **Hortensius R.** & Harmon-Jones E. (2013). When anger leads to rumination: induction of relative right frontal cortical activity with transcranial direct current stimulation increases anger-related rumination. *Psychological Science*, 24:475-481.
- de Gelder B., **Hortensius R.** & Tamietto M. (2012). Attention and awareness each influence amygdala activity for dynamic bodily expressions. A short review. *Frontiers in Integrative Neuroscience*, 6:54.
- Hortensius R.**, Schutter D.J.L.G. & Harmon-Jones E. (2012). When anger leads to aggression: Induction of relative left frontal cortical activity with transcranial direct current stimulation increases the anger-aggression relationship, *Social Cognitive and Affective Neuroscience*, 7:342-347.
- Schutter D.J.L.G. & **Hortensius R.** (2011). Brain oscillations and frequency dependent modulation of cortical excitability, *Brain Stimulation*, 4:97-103. Featured on the cover.
- Schutter D.J.L.G. & **Hortensius R.** (2010). Retinal origin of phosphenes to transcranial alternating current stimulation, *Clinical Neurophysiology*, 221:1080-1084. With accompanying editorial.

### Professional Service

- Editor** *Philosophical Transactions of the Royal Society B* theme issue *From social brains to social robots: Applying neurocognitive insights to human-robot interaction* with E. Cross and A. Wykowska (publication date: Spring 2019).
- Member** Athena Swan Culture Development Group, Institute of Neuroscience and Psychology, University of Glasgow.
- Reviewer** Nature Human Behaviour, Journal of Experimental Psychology: Human Perception and Performance, Brain Structure and Function, Experimental Brain Research, Motivation & Emotion, Journal of Neurophysiology, American Psychologists, Psychosomatic Medicine.

### Organized Workshop and Symposia

- Cognitive and Social Neuroscience Methods for HRI*. Workshop co-organized with E. Cross, A. Wykowska, G. Metta, and C. Becchio at the 13th ACM/IEEE International Conference on Human Robot Interaction, Chicago, USA, March.
- The Emerging Social Neuroscience of Social Robotics*. Workshop co-organized with E. Cross at Bangor University, Wales (2017).

*Real worlds for virtual humans - Changing Perspective.* Symposium co-organized with S. Seinfeld (University of Barcelona) at the International Convention of Psychological Science, Austria (2017).

*The changing face of empathy.* Symposium co-organized with B. de Gelder at the International Convention of Psychological Science, The Netherlands (2015).

*The non-conscious mind.* Symposium co-organized with B. Stienen, M. Tamietto and B. de Gelder at Tilburg University, The Netherlands (2012).

### Conference Presentations

**Hortensius, R.** (2018). Socialising with a robot and the flexibility of empathy, talk given at the 4th Workshop on Virtual Social Interaction, London, United Kingdom, December.

**Hortensius, R.** (2018). Automatic imitation during human-robot interaction, talk given at the third meeting of the European Social and Affective Neuroscience Society, Leiden, The Netherlands, July.

**Hortensius, R., Hekele, F. & Cross, E. S.** (2018). The perception of emotion in artificial agents, poster presented at the Consortium of European Research on Emotion, Glasgow, Scotland, April.

**Hortensius, R.** (2018). Automatic imitation during human-robot interaction, talk presented at the 13th ACM/IEEE International Conference on Human Robot Interaction, Chicago, USA, March.

**Hortensius R.** (2016). Predicting helping behavior of bystanders during a violent conflict in Virtual Reality using behavioral reactivity, talk given at the International Convention of Psychological Science, Vienna, Austria, March.

**Hortensius R., Terburg D., Morgan B., Stein D., van Honk J. & de Gelder B.** (2015). Contextual emotional face processing in the absence of a functional basolateral amygdala, poster presented at the meeting of the Organization for Human Brain Mapping, Honolulu, Hawaii, United States, June.

**Hortensius R.** (2015). Empathy does not need company - the influence of group size and trait empathy on neural and behavioral patterns when witnessing an emergency, talk given at the inaugural International Convention of Psychological Science, Amsterdam, The Netherlands, March.

**Hortensius R., Terburg D., Morgan B., Stein D., van Honk J. & de Gelder B.** (2014). Ambiguous social threat perception and the role of the basolateral amygdala - Evidence from fMRI, poster presented at the 5th annual meeting of Society for Social Neuroscience and the 44th annual meeting of the Society for Neuroscience, Washington, DC, United States, November.

**Hortensius R.** (2013-2014). Empathy does not need company - the influence of group size and trait empathy on neural and behavioral patterns when witnessing an emergency, talk given at the 14<sup>th</sup> Dutch Psychonomic Society meeting, Egmond, The Netherlands, December, and at the Brain and Emotion preconference of the general meeting of the European Association Of Social Psychology, Amsterdam, The Netherlands, July.

**Hortensius R., de Gelder B. & Schutter D.J.L.G.** (2013). When anger dominates the mind - increase in cortical excitability in the face of threat, poster presented at the Magstim Neuroenhancement Conference & Workshop 2013, Oxford, United Kingdom, May, and at the annual meeting of EPOS, Amsterdam, The Netherlands, June.

**Hortensius R. & de Gelder B.** (2011-2012). Neurofunctional basis of group influences on action preparation, poster presented at the Symposium on the "Social Brain", European Social and Affective Neuroscience, Brussel, Belgium,

November, at the 13<sup>th</sup> Dutch Psychonomic Society meeting, Egmond, The Netherlands, December, and at the 19<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Chicago, United States, April.

**Hortensius R.**, de Gelder B., Terburg D., Stein D., Morgan B. & van Honk J. (2012). Bilateral calcification of the basolateral amygdala: Reconsidering the role of the amygdala in face and body perception, poster presented at the Alpine Brain Imaging Meeting, Champéry, Switzerland, January.

**Hortensius R.**, Harmon-Jones E. & Schutter D.J.L.G. (2010). Cerebral recalibration and motivated attention – A transcranial current stimulation study, poster presented at the 50th Society for Psychophysiological Research meeting, Portland, United States, October.

**Hortensius R.** & Schutter D.J.L.G. (2009). Brain oscillations and cortical excitability – Novel perspectives in combining electroencephalography and transcranial magnetic stimulation, poster presented at the 8th Dutch Endo-Neuro-Psycho Meeting, Doorwerth, The Netherlands, June.

### **Talks, Dissemination, and Science Outreach**

*A popularity contest in the robotic petting zoo*, an interactive art performance co-developed with artist Merel Bekking. Presented as a stand-alone event at Pontio Bangor University's Art and Innovation Centre, and as part of the 2018 Glasgow Science Festival and the 2018 British Science Festival. More info at the [Petting Zoo's website](#).

My research was featured on the *BBC news*, *BBC Radio Wales*\*, in Dutch newspapers *de Volkskrant*\*, *Het Parool*\*, *Brabants Dagblad*\*, and *Nederlands Dagblad*, news website *RTL Nieuws*\*, news website for kids *7days*\*, national radio *Radio 1*\* and *Radio 5*\*, as well as *Radio 1 Belgium*\*, popular science magazine *EOS Wetenschap*\* and *Psychologie Magazine*\*, student magazine *Univers*, and online student science magazine *Kijk op Kennis*\*. Items available [here](#). \* interview.

Invited Talk, Department of Psychiatry and Mental Health, Faculty of Health Sciences, University of Cape Town, South Africa, 27 June 2016.

Invited Talk, Studies in Historical Trauma and Transformation, Faculty of Arts and Social Sciences, Stellenbosch University, South Africa, 12 May 2016.

Invited Talk, Faculty of Health, Medicine and Life Sciences, Maastricht University, The Netherlands, 8 June 2015.

Talk, Toronto Laboratory for Social Neuroscience, Department of Psychology, University of Toronto, Canada, 20 November 2014.

Talk, Laboratory on Social & Affective Neuroscience, Department of Psychology, Georgetown University, Washington D.C., United States, 12 November 2014.

Invited Discussant, Seeing Differently symposium organized by artist Abner Preis, van Abbemuseum, Eindhoven, the Netherlands, 22 November 2014.

Lecture, New Ideas in the Cognition of Social Interaction workshop organized by the Ecole Normale Supérieure, Institut d'Etude de la Cognition, Paris, France, 9 November 2013.

Invited talk, Probusclub De Heuvelrug, Doorn, The Netherlands, 13 September 2013.

Invited talk, Department of Work and Organizational Psychology, University of Amsterdam, The Netherlands, 4 September, 2013.

Talk, The Sinha Laboratory for Vision Research, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, United States, 28 March 2012.

Invited Talk, Brain and Emotion Laboratory Leuven, Division of Psychiatry, Department of Neurosciences, KU Leuven, Leuven Belgium, 24 November 2011.

### Teaching Experience

- 2018 Guest Lecturer, Social Robotics year 4/MSc module, Autumn 2018, University of Glasgow.
- 2018 – present Supervision of MSc research thesis students, University of Glasgow.
- 2018 – present Supervision of BSc thesis students, University of Glasgow.
- 2017 Guest Lecturer, Cognitive Psychology year 2 module, Autumn 2017, Bangor University.
- 2017 – 2018 Supervision of BSc thesis students, Bangor University.
- 2017 – 2018 Supervision of MSc research thesis students, Bangor University.
- 2017 – 2018 Supervision of research intern, Bangor University.
- 2017 Supervision of RiSE DAAD intern, Bangor University
- 2016 Supervision of research assistant, University of Cape Town.
- 2015 – 2016 Supervision of MSc research theses students, Maastricht University.
- 2011 – 2015 Supervision of BSc thesis students, Tilburg University.
- 2011 – 2015 Supervision of BSc research interns, Tilburg University.
- 2013 – 2014 Supervision of MSc research thesis students, Tilburg University.
- 2011 – 2014 Teaching assistant, BSc course “Research in Psychology”, Tilburg University.
- 2012 Teaching assistant, BSc course: Experimental Psychology”, Tilburg University.
- 2011 Teaching assistant, BSc course “Cognitive Psychology”, Utrecht University.