
MARK MILLER

(+44) 07459 875615
m.d.miller@sussex.ac.uk

Department of Informatics,
University of Sussex
Falmer House
Brighton, United Kingdom

Website: markdmiller.org

Profile

Postdoctoral Researcher at the University of Sussex, Informatics Department.

Currently working on Professor Andy Clark's 4-year European Research Council funded project *Expecting Ourselves: Embodied Predictive Processing and the Construction of Conscious Experience (X-Spect)*, which is the first major research project applying the so called 'predictive processing framework' to the theoretical and empirical investigation of consciousness. It aims to deliver an innovative, highly interdisciplinary account of the nature and scope of conscious experience from the special context of embodied agents, able to predict many of their own evolving states and responses – agents able to 'expect themselves'.

PhD in Philosophy and Cognitive Science, awarded in 2018,

Areas of Specialism: Philosophy of Mind, Philosophy of Neuroscience (especially Affective and Social Neuroscience), Phenomenology, Cognitive Science (especially 4E Cognitive Science).

Areas of Competence: Philosophy and Ethics of Artificial Intelligence, Philosophy of Science, Philosophy of Psychiatry, Contemporary Ethics (especially Neuroethics).

Employment

University of Sussex, UK

Postdoctoral Researcher, Department of Informatics (May 2019–Present)

University of Edinburgh, UK

Postdoctoral Researcher, Department of Philosophy, Psychology and Language Sciences (September 2018–May 2019)

University of Edinburgh, UK

Social Media Coordinator, Department of Philosophy, Psychology and Language Sciences' Massive Open Online Course *Philosophy, Science and Religion*.

Education

PhD in Philosophy (2014–2018)

Degree awarded by University of Edinburgh, UK.

Thesis Title: *Entangled Predictive Brain: Prediction, Emotion and Embodied Cognition*. Thesis can be found here: <https://era.ed.ac.uk/handle/1842/33218>

Examination Committee: Professor Sean Gallagher (University of Memphis), Professor Dave Ward (University of Edinburgh), Professor Tillman Virkant (University of Edinburgh). Doctorate awarded with no corrections.

M.Sc. in Mind, Language and Embodied Cognition (2010–2011)

Degree awarded by University of Edinburgh. Awarded First-Class Honours.

B.A. (Honours) in Philosophy and English Literature (2005–2008)

Degree awarded by University of Toronto. Awarded 3.91GPA.

Honours and Awards

Junior Research Fellow, The Centre for Mind and Cognition at Ruhr-University, Bochum, DE. 09/01/2019-09/30/2019 (1,000.00£).

Royal Institute of Philosophy's Jacobson Studentship.
09/01/2017-09/01/2018 (8000.00£).

University of Edinburgh's Gray's Prize in Philosophy for the publication *Happily Entangled: Prediction, Emotion and Embodied Cognition*. *Synthese*, 1-17.
06/2/2017.

University of Edinburgh's Global International Doctoral Scholarship.
09/01/2014-09/01/2017 (44,000.00£).

University of Edinburgh's College of Humanities and Social Sciences Doctoral Studentship. 09/01/2014-09/01/2017 (50,000.00£).

Frontier's Spotlight Award for the publication *The Embodied Brain: Towards a Radical Embodied Cognitive Neuroscience*. *Frontiers in Human Neuroscience*, 9, 237. 12/22/2015

University of Edinburgh's Global International Master's Scholarship.
09/01/2010-09/01/2011 (3,000.00£).

The Social Sciences and Humanities Research Council of Canada's Joseph Armand-Bombardier Canada Graduate Scholarship.
09/01/2010-09/01/2011 (7,500.00\$).

Ontario Ministry of Training, Colleges, and Universities' Ontario Graduate Scholarship. 09/01/2010-09/01/2011 (5,000.00\$).

Articles

Miller, M., Clark, A. Deane G. & Nave, K. (forthcoming). Expecting Ourselves: Embodied Prediction and the Construction of Conscious Experience. In *Phenomenal Expectations: New Essays on Predictive Processing and Consciousness*, edited by Miller, M., Schlicht, T. & Clark, A. Philosophy and Psychology.

Miller, M., Clark, A., Deane, G. & Nave, K. (forthcoming). Rewilding the Predictive Brain: Embodied, Emotional and Extended. *Wiley Interdisciplinary Reviews: Cognitive Science*.

Miller, M. & Markovic, J. (forthcoming). Predicting Emotions: Emotion-Cognition Interactions in the Predictive Brain. In Araya, J. and Muñoz-Suárez, C. *Predictive Processing: Mind, Body, and World in the Flux of Sensory Anticipation*.

Kiverstein, J., Miller M. & Rietveld E. (2020). Mood as Tuning Predictions: A Neurophenomenological Perspective on Depression. *Neuroscience of Consciousness*.

Miller, M., Kiverstein, J., & Rietveld, E. (2020). Embodying addiction: A predictive processing account. *Brain and Cognition*, 138, 105495.

Miller, M., & Nave, K. (2020). Slimes and Cyborgs: Stretching the Boundaries of Life. *Adaptive Behavior*, 28(1), 43-44.

Kiverstein, J., Miller, M. & Rietveld, E. (2017). The Feeling of Grip: Error Dynamics, Novelty and the Predictive Brain. *Synthese*, 1-23.

Miller, M., & Clark, A. (2017). Happily Entangled: Prediction, Emotion, and the Embodied Mind. *Synthese*, 1-17.

Kiverstein, J., & Miller, M. (2015). The Embodied Brain: Towards a Radical Embodied Cognitive Neuroscience. *Frontiers in Human Neuroscience*, 9, 237.

Kiverstein, J., & Miller, M. (2015). The Cognitive-Emotional Brain is an Embodied and Social Brain. Commentary on Luiz Pessoa. *Behavioural and Brain Sciences* 38: 26-7.

Miller, M. (2013). Book Review: of *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions*, edited by Mark Siderits, Evan Thompson and Dan Zahavi, Oxford University Press 2011. *Journal of Consciousness Studies*.

Under Review/Drafts

Miller, M., Deane, G. & Wilkinson, S. (in review, *Frontiers of Psychology*). Losing Ourselves: Active Inference, Depersonalization and Enlightenment.

Kiverstein, J., Miller, M. & Rietveld, E. (in review, *Journal of Philosophy*). Desire in the Predictive Organism.

Miller, M., Schoeller, F., Hesp C. & Clark, A. (in preparation) Action-Oriented Explanation of Psychogenic Shivers (and Emotional Fever).

Schoeller, F., Pezzulo, G., Horowitz, A., Jain, A., Maes, P., Allen, M., Miller, M., Friston, K. (in preparation). Artificial Sensations: Interoception, Technology, and Psychopathology.

Edited Collections

Phenomenal Expectations: New Essays on Predictive Processing and Consciousness (2021). Edited by Dr. Mark Miller, Prof. Tobias Schlicht & Prof. Andy Clark. *Review for Philosophy and Psychology*.

Conference Presentations and Talks

Curiosity in the Predictive Brain. Symposium title: Surprising Play, Interacting Minds and Predictive Brains, with Andreas Roepstorff, Marc Malmndorf Andersen, Savannah Schulz and Meredith Bak. Learning through Play and Imagination, Society for Research in Child Development Conference, St. Louis, USA, December 2-4 2020.

Curiosity in an Ecological-Enactive Predictive Organism. Learning, Breaking, Making: Analysing Processes of Play, Second International PLAYTRACK Conference, Aarhus University, Denmark, November 2-4 2020.

Rewilding the Predictive Brain: Embodied, Emotional and Extended. York University Neurology Group, Jan 16 2020.

Embodying Addiction. Interview on the podcast Philosophers Chatting with Clinicians. February 11th 2020. philsclinschat.podbean.com/e/3-maka/.

Rewilding the Predictive Brain: Embodied, Emotional and Extended. University of Toronto Cognitive Science and Artificial Intelligence Student Association, Jan 10 2020.

Hitting the Slopes: Temporal Error Dynamics and the Surprise-Loving Predictive Organism. Keynote at Timescales of Life and Mind Conference. University of Edinburgh, Nov 4-6 2019.

Public Outreach, presenting research outputs from *Expecting Ourselves to the public* at The Digital Festival, Brighton UK, October 13 2019.

Mood as Predicting Momentum. Symposium title: Losing Our Grip: Psychopathology and Embodied Predictive Processing, with Julian Kiverstein, Jelle Bruineberg and Regina Fabry. European Conference on Cognitive Science. Bochum, DE. Sept 2-4 2019. Edinburgh UK. Jan 23 2019.

The Gripless Grip: A Predictive Processing Account of Buddhist Awakening, Pint of Science, Edinburgh, UK. May 21 2019.

Embodying Addiction: A Predictive Processing Account, keynote at Beyond the Brain: Academic Conference at the University of Edinburgh on Reconceptualizing Mental Disorders, University of Edinburgh, UK. May 9-10 2019.

Still Happily Entangled: Prediction, Emotion and Embodied Cognition Philosophy, Psychology and Informatics Group Seminar Series, University of Edinburgh UK. Jan 23 2019.

Feelings Gone Wild. 2nd Annual X-Spect Workshop, University of Edinburgh. Nov 02 2018.

Fleshing Out Visual Consciousness: Philosophy, Neuropsychology and the Two- Visual Systems. Philosophy of Mind, Language, and Cognitive Science Graduate Conference. Western University, Canada. May, 14-16th 2018

Predictive Coding and the Bodily Self. 25th Annual University of Waterloo Philosophy Graduate Student Association Conference. Waterloo, Canada.

March, 8th 2018

The Neuroscience of Human Perception and the Image of Self. University of Edinburgh Psychedelic Society. Edinburgh, UK. April, 5th 2017. Wisdom and

Compassion in the Predictive Brain.

Public Outreach, presenting neuroscience behind the award-winning psychological illusion 'The Mirage Box'. Camera Obscura, Edinburgh UK, September 2017.

Compassion and Wisdom in the Predictive Brain. A Patient's Tale: compassion in our NHS? Global Compassion Initiative, Royal College of Physicians. Edinburgh UK. March, 13 2017.

The Puzzle of Curiosity: Why Would a Prediction Error Minimizing Brain Move Agents to Seek Out Novelty? Presented with Julian Kiverstein at Worlding the Brain: Predictive Processing as an Interdisciplinary Concept. University of Amsterdam, NL. November, 16 2016.

Embodying the Brain. 4th Global Experts Meeting on Neuropharmacology. San Antonio, USA. September, 15-17 2016.

Predictive Brains and Compassionate Hearts. TEDx Compassion and Courage Salon. Edinburgh, UK. June, 28 2016.

Predictive Emotions, Emotional Predicting. The Second Annual Conference of the European Philosophical Society for the Study of Emotions. Edinburgh, UK. July, 15-17 2015.

Is the Brain a Prediction Machine? International Society for the History, Philosophy, and Social Studies of Biology Meeting. Montreal, CA. July, 5-10 2015.

Affective Realism: The Light and Dark Side of Seeing-With-Feeling. The World as We Feel It - Talking About Emotions Across the Disciplines Lecture Series. University of Edinburgh, UK. April, 28 2015.

The Embodied Brain. The Second Symposium on Embodied Cognition and Performance at The Society for the Study of Artificial Intelligence and Simulation of Behaviour Conference. Kent, UK. April, 22 2015.

Is Empathy (Radically) Embodied? Cognition of Self and Other: Perceptual and Social Processes. University of Stirling Psychology Symposium, UK. November, 13 2014.

Teaching

Teaching Assistant

2017 Knowledge and Reality (Undergraduate Philosophy), University of Edinburgh, UK.

Lecturer

2018, 2019, 2020 Introduction to Cognitive Science (Undergraduate Cognitive Science), University of Edinburgh, UK.

2020 Ethics of Artificial Intelligence. Lead organizer of a 12-week online course sponsored by the Beneficial A.I. Society and Cognitive Science Society at University of Edinburgh, UK.

2019 Entangled Predictions: Introduction to Embodied Predictive Processing (Undergraduate Proseminar Cognitive Science), Tübingen University, DE. July 6-7.

2018 Advanced Topics in Mind, Language and Embodied Cognition (Graduate Philosophy, Psychology and Language Sciences), University of Edinburgh, UK.

2018 CogLab: Seminars in Contemporary Cognitive Science (Graduate Cognitive Science), University of Edinburgh, UK.

Invited Lecturer

2018 Perception, Action and Cognition (Undergraduate Neuroscience), University of Edinburgh, UK.

2018 Philosophy Skills (Undergraduate Philosophy Modules), University of Edinburgh, UK.

2017 Advanced Mind, Language and Embodied Cognition (Graduate Philosophy, Psychology and Language Sciences), University of Edinburgh, UK.

2017 Introduction to Predictive Processing (Undergraduate Philosophy, Psychology and Language Sciences), University of Edinburgh, UK.

Professional and Community Service

Organizational Committee, *Nested Minds Network*. The Nested Minds Network connects and supports neuroscientists, machine learning researchers and philosophers from 18 Universities in 9 countries in their research as they endeavour to understand the human mind.

Project Leader (alongside Felix Schoeller), *Cyber-Hearts: Augmented Emotions Research Group*.

Organizer, *Virtual Philosophy, Psychology and Informatics Group Seminar Series*. University of Edinburgh, UK. <https://blogs.ed.ac.uk/virtualppig/>.

Organizer, *Philosophy of Psychiatry Reading Group*. University of Sussex, UK. <https://canvas.sussex.ac.uk/courses/15059>.

Journal Referee: Artificial Intelligence; Journal of Philosophy; British Journal of Philosophy; Journal of Consciousness Studies; Journal of Psychology; Synthese, Behavioural Brain Research, Psychonomic Bulletin & Review.

Conferences and Workshops Organized

All Things Predictive. Expecting Ourselves International Conference, University of Sussex UK. November 1 2020.

Wilding the Predictive Brain: Prediction, Culture and Context. 3rd Annual Expecting Ourselves Workshop, University of Sussex UK. November 1 2019.

Innovative Minds: Prediction, Embodiment and Consciousness. Six-week online course June-July 2019.

Beyond the Brain: Academic Conference at the University of Edinburgh Reconceptualizing Mental Disorder, University of Edinburgh, UK, May 9-10 2019.

State of the Art (and Just Beyond). 2nd Annual Expecting Ourselves Workshop, University of Edinburgh UK. November 10 2018.

Embodied Mind, Embodied Design. University of Edinburgh, November 9 2015.

The Mindful Brain: Meditation and Cognitive Science. Eight-week course, University of Edinburgh's Student Association, October 20 2015.

Project Supervisor

2019 M.Sc. Mind, Language and Embodied Cognition thesis (5 students),
University of Edinburgh, UK.

2020 M.Sc Cognitive Science thesis (1 student), University of Edinburgh, UK.

References

Academic/teaching references and student feedback available upon request.