

PERSONAL DETAILS

First Name Merle Theresa
Last Name FAIRHURST-MENUHIN (née FAIRHURST)
Address Rosenheimer Str. 24, 83607 Holzkirchen
Occupation Professor (Vertretung)
Telephone +49 177 267 6405
Date of Birth 20th August 1982
E-mail address merle.fairhurst@gmail.com
Nationality German
Marital Status married (5 children)
Languages English, German, French

**EDUCATION**

Postgraduate D.Phil
FMRIB Centre, University of Oxford, UK

Undergraduate BA(Hons)/MA Physiological Sciences
University of Oxford, UK

Diplomas Diploma
The Juilliard School of Music, USA

POST DOCTORAL APPOINTMENTS

August 2023 - present Juniorprofessor for Affective Touch, TU Dresden
CeTI: Centre for the Tactile Internet

November 2019 - July 2022 Professor (Vertretung), *Bundeswehr University of Munich*
Institute for Psychology, Chair for Biological Psychology

March 2017 – July 2022 Assistant Professor, *LMU Munich*
Philosophy of Mind and Cognitive Neuroscience

February 2014 – February 2017 Postdoctoral Research Fellow, *University of London*
Institute of Philosophy, Centre for the Study of the Senses,

July 2012 – January 2014 Postdoctoral Research Fellow, *MPI Human Cognition and Brain Sciences*
Early Social Development

July 2009 – June 2012 Postdoctoral Research Fellow, *MPI Human Cognition and Brain Sciences*
Music, Cognition and Action Group

Area of research

Application of psychophysical and neuroimaging techniques combined with novel computational modelling to investigate the integration and modulation of sensory information in contextually and socially rich, dynamically evolving multisensory events.

PUBLICATIONS

1. Dunckley P., Wise R.G., **Fairhurst M.**, Hobden P., Aziz Q., Chang L., Tracey I. A comparison of visceral and somatic pain processing in the human brainstem using functional magnetic resonance imaging. *J Neurosci* 2005
2. **Fairhurst M.**, Wiech K., Dunckley P., Tracey I. Anticipatory brainstem activity predicts neural processing of pain in humans. *PAIN* 2007
3. **Fairhurst M.**, Fairhurst K, Berna Renella C, Tracey I.A. Simulated and physical pain produce overlapping brain network of activity except for posterior insular cortex. *Plos One* 2012
4. **Fairhurst M.T.**, Janata P., Keller P.E. Being and feeling in sync with an adaptive virtual partner: brain mechanisms underlying dynamic cooperativity. *Cerebral Cortex* 2012
5. Hove M.J., **Fairhurst M.T.**, Kotz S.A., Keller P.E. Synchronizing with auditory and visual rhythms: an fMRI assessment of modality differences and modality appropriateness. *Neuroimage* 2012
6. Uhlig M., **Fairhurst M.T.**, Keller P.E. The importance of integration and top-down salience when listening to complex multi-part musical stimuli. *Neuroimage* 2013
7. **Fairhurst M.T.**, Janata P., Keller P.E. Leading the follower: an fMRI investigation of dynamic cooperativity and leader-follower strategies in synchronization with an adaptive virtual partner. *Neuroimage* 2013
8. Ragert M., **Fairhurst M.T.**, Keller P.E. Segregation and integration of complex auditory streams. *PloS One* 2014
9. **Fairhurst, M.T.**, Löken, L.S., Grossman, T. Physiological and behavioral responses reveal human infants' sensitivity to pleasant touch. *Psychological Science* 2014
10. Tajadura-Jimenez, A, Basia, M, Deroy, O, **Fairhurst, M**, Marquardt, Berthouze, N. As light as your footsteps: altering walking sounds to change perceived body weight, emotional state and gait. *Computer Human Interface* 2015
11. van der Steen, M.C., Jacoby, N., **Fairhurst, M.T.**, & Keller, P.E. Sensorimotor synchronization with tempo-changing auditory sequences: Modeling temporal adaptation and anticipation. *Brain Research* 2015
12. **Fairhurst, M.T.**, Pritchard, D., Ospina, D., Deroy, O. Bouba-Kiki in the plate: combining crossmodal correspondences to change flavour experience. *Flavour* 2015
13. Koehne, S., Behrends, A., **Fairhurst, M.T.**, Dziobek, I. Fostering Social Cognition through an Imitation- and Synchronization-Based Dance/Movement Intervention in Adults with Autism Spectrum Disorder: A Controlled Proof-of-Concept Study. *Psychother Psychosom* 2016
14. **Fairhurst M.T.**, Deroy O. Testing the shared spatial representation of magnitude of auditory and visual intensity. *J Exp Psychol Hum Percept Perform* 2017
15. Gallotti, M., **Fairhurst M. T.**, Frith, C. Alignment in social interactions. *Consciousness and Cognition* 2017
16. **Fairhurst M.** T. Scott M., Deroy O. Matching face-voices pairings affect recall: Evidence from a real-life context. *Plos One* 2017

17. Tajadura-Jiménez A., Vakali M., **Fairhurst M.T.**, Mandrigin A., Bianchi-Berthouze N., Deroy O. Auditory Pinocchio: Rising pitch changes the mental representation of one's finger length. *Scientific Reports* 2017
18. **Fairhurst M.T.**, Travers E, Hayward V, Deroy O. Confidence is higher in touch than in vision in cases of perceptual ambiguity. *Scientific Reports* 2018
19. Deroy, O., & **Fairhurst, M.** (2019). Spatial Certainty. *Spatial Senses: Philosophy of Perception in an Age of Science*.
20. Hoehl, S., **Fairhurst, M.**, & Schirmer, A. (2020). Interactional synchrony: signals, mechanisms and benefits. *Social Cognitive and Affective Neuroscience*.
21. Travers, E., **Fairhurst, M. T.**, & Deroy, O. (2020). Racial bias in face perception is sensitive to instructions but not introspection. *Consciousness and cognition*, 83, 102952.
22. Battich, L., **Fairhurst, M.**, & Deroy, O. (2020). Coordinating attention requires coordinated senses. *Psychonomic Bulletin & Review*, 1-13.
23. Schirmer, A., **Fairhurst, M.**, & Hoehl, S. (2020). "Being 'in sync' – Is interactional synchrony the key to understanding the social brain? Social Cognitive and Affective Neuroscience.
24. Dumas, G. & **Fairhurst, M.T.**, (2021) Reciprocity and alignment: quantifying coupling in dynamic interactions. *R. Soc. Open Sci.* 8: 210138. <https://doi.org/10.1098/rsos.210138>
25. Tunçgenç, B., Travers, E., & **Fairhurst, M. T.** (2021). Leadership and tempo perturbation affect coordination in medium-sized groups. *Scientific reports*, 11(1), 1-11.
26. Croy, I., **Fairhurst, M.T.**, McGlone, F. The role of C-fibers in human social development. *In press Current Opinion in Behavioral Sciences*
27. **Fairhurst, M.T.**, McGlone, F., Croy, I. Affective touch: A communication channel for social exchange. *In press Current Opinion in Behavioral Sciences*
28. Najm, A., Hadjipanayi, C., Michael-Grigoriou, D., Banakou, D., McGlone, F., **Fairhurst, M.T.** The Virtual Touch Toolkit: Promoting Self-Discovery Through Affective Touch. *Under review*
29. **Fairhurst M.T.**, Janata P., Keller P.E. Distinguishing self from other in a dynamic synchronization task with an adaptive virtual partner. *Under review*

BOOKS AND BOOK CHAPTERS

1. **Fairhurst M.**. Neurogenetic Imaging. Book chapter in: Gene Therapy - Prospective assessment in its societal context. Niewohner & Tannert (Eds), Elsevier (pub). 2006.
2. Deroy, O., **Fairhurst, M.T.** Spatial certainty: Feeling is the truth. In press
3. **Fairhurst, M. T.** (2020). Modeling Dynamic Coupling in Social Interactions. In *Discrete and Continuous Models in the Theory of Networks* (pp. 153-168). Birkhäuser, Cham.
3. Tajadura-Jiménez A., **Fairhurst M.T.**, Deroy O. Sensing the body through sound. In *Routledge Handbook of Bodily Awareness* (Forthcoming)
4. Wiltshire, T. & **Fairhurst, M.** Dynamical Systems and Collaborative Creativity in *Routledge Handbook of Creative Cognition* (Forthcoming)
5. **Fairhurst, M.T.**, Give and take: How we become aligned in body and mind. London. Routledge. (under contract)
6. Deroy, O., **Fairhurst, M.T.** Philosophy and cognitive neuroscience. London: Routledge. (under contract)

INVITED TALKS, POSTERS AND PRESENTATIONS

1. Dunckley P, Wise RG, **Fairhurst M**, Hobden P, Aziz Q, Chang L, Tracey I. A comparison of visceral and somatic pain processing in the human brainstem using functional magnetic resonance imaging.
2. **Fairhurst M**. Neurogenetic Imaging. MDC – **European Gene Therapy Workshop** (Berlin, May 2005)
3. **Fairhurst M**, Dunckley P, Tracey I. High Resolution fMRI of Human Brainstem: Anticipation and the Descending Pain Modulatory Pathway **IASP, 11th World Congress on Pain** (Sydney, August 2005)
4. **Fairhurst M**, Wiech K, Dunckley P, Tracey I. Anticipatory brainstem activity predicts neural processing of pain in humans. **EFIC, Istanbul Pain in Europe V** (September 2006)
5. **Fairhurst M**, Berna Renella C, Tracey I.A. Anticipation and Laterality – nociceptive processing within the human cerebellum. **CNS, Annual Meeting** (New York , May 2007)
6. Leknes S, **Fairhurst M**, Duncan K, Brooks J, Tracey I. Imaging pleasant pain relief. **CNS Annual meeting**. (New York, May 2007)
7. **Fairhurst M**, Fairhurst K, Berna Renella C, Tracey I.A. Short-term episodic memory of pain: “Real” and “Recalled Imagined” Pain. **CCNi, Brunel University** (London, March 2007)
8. **Fairhurst M**, Berna Renella C, Tracey I.A. Neural correlates of imagined pain and fear of pain: functional imaging of the fear of pain questionnaire-iii. **WIP, 4th World Congress World Institute of Pain** (Budapest, September 2007)
9. Berna C, **Fairhurst M**, Goodwin GM, Tracey I. The influence of personality on subjective pain perception: a psychophysical study. **WIP, 4th World Congress World Institute of Pain** (Budapest, September 2007)
10. **Fairhurst M**, Anwender A, Repp BH, Keller PE. The effect of musical experience on error correction and correlated white matter adaptations. **BACN, University College of London (UCL)**. (London, September 2009)
11. Fairhurst K, **Fairhurst M**, Tracey I. Measuring the effect of time delay on pain recall using FMRI. **BACN, University College of London (UCL)**. (London, September 2009)
12. **Fairhurst M. T.**, Janata P., Repp B., Stelzer J., & Keller P.E. (2010). FMRI investigation of dynamic cooperativity: synchronised finger tapping with an adaptive virtual partner. Talk presented at **11th International Conference on Music Perception & Cognition (ICMPC11)**. Seattle, WA, USA. 23-27 August
13. **Fairhurst M. T.**, Janata, P., Repp, B., Stelzer, J., & Keller, P. E. (2010). FMRI investigation of dynamic cooperativity: synchronised finger tapping with an adaptive virtual **Society for Neuroscience (SFN) 2010, San Diego, California** (November 2010)
14. **Fairhurst M. T.**, Janata, P., Repp, B., Stelzer, J., & Keller, P. E. FMRI investigation of dynamic cooperativity: synchronised finger tapping with an adaptive virtual **SFN 2011, Washington DC** (November 2011)
15. Uhlig, M., **Fairhurst, M.T.**, & Keller P.E. (2011) . What aspects of music grab our attention more? An investigation of the effects of musical structure and performance asynchrony on the perception of leader-follower relations and quality during selective attention to a piano duet. Talk presented at **SFN Annual Meeting 2011**. Washington DC, USA. 11-16 November, 2011.
16. Keller, P.E., Pecenka, N., **Fairhurst, M.T.**, Repp, B. (2011) Relations between basic temporal error correction processes and the quality of interpersonal coordination. Talk presented at **4th Joint Action Meeting. Austrian Academy of Sciences**. Vienna, Austria. 7-9 July, 2011.
17. **Fairhurst, M.T.** (2011). Dynamic cooperation with a “virtual partner”. Invited talk at Goldsmiths, University of London. London, U.K. 19 October, 2011.

18. Van der Steen, M.C. (Marieke), **Fairhurst, M.T.**, Keller, P.E. (2012) ADAM in action: working with an adaptive and anticipatory virtual partner. Talk presented at **EBRAMUS consortium meeting Spring school**. Ghent, Belgium. 27 February -4 March, 2011.
19. **Fairhurst, M.T.**, Janata, P. Keller, P.E. (2012). Leaders and followers: an fMRI study of dynamic cooperation using an adaptively paced finger-tapping task. Poster presented at **Organization for Human Brain Mapping (OHBM) Annual Meeting**. Beijing, China. 10 – 14 June, 2012.
20. Uhlig, M., **Fairhurst, M.T.**, Keller, P.E. (2012). The importance of integration when selectively listening to complex multi-part musical stimuli. . Poster presented at **OHBM Annual Meeting**. Beijing, China. 10 – 14 June, 2012.
21. Van der Steen, M.C. (Marieke), **Fairhurst, M.T.**, Keller, P.E. (2012) Tapping along with ADAM: synchronizing with an adaptive and anticipatory virtual partner. Poster presented at **NCM conference**, Venice, Italy. 23-28 April, 2012.
22. Van der Steen, M.C. (Marieke), **Fairhurst, M.T.**, Keller, P.E. (2012) Investigating the role of adaptation and anticipatory mechanisms on sensorimotor synchronization using ADAM. Poster presented at **PoRT workshop**. Glasgow, U.K. 19-21 July, 2012.
23. Köhne, S., **Fairhurst, M.T.**, Behrends, A., Dziobek, I. (2013) Sensorimotor synchronization and empathy in high-functioning autism. **6th Scientific Meeting for Autism Spectrum Conditions (WTAS)** Bonn, Germany. 21-22 February, 2013
24. **Fairhurst, M.T.**, Deroy, O. Magnitude estimation across the senses. **ESPP 2014**, Noto September 16-19, 2014.
25. **Fairhurst, M.T.** The dynamic nature of two-way social interactions. **We-mode workshop**, Aarhus. 22-23 September 2014.
26. **Fairhurst, M.T.** Beyond synchronisation: Characterising dynamic, reciprocal two-way interactions. **TSC 2015**, Helsinki 9-13 June, 2015
27. **Fairhurst, M.T.**, Deroy, O. Do representations of magnitude share a single mental space? An auditory and audio-visual test using loudness and luminance. **IMRF 2015**, Pisa 13-16 June 2015
28. **Fairhurst, M.T.** Mental alignment and reciprocity: Characterising dynamic, reciprocal two-way interactions. **Social Cognition Seminar Series**. UCL, 16th June 2016
29. **Fairhurst, M.T.**, Deroy, O. Trusting Our Senses: Metacognition and Confidence Across Sensory Modalities. **ICPS 2017**, Vienna 23-25th March 2017
30. **Fairhurst, M.T.** The perceptual bases of mental alignment and reciprocity **OCCAM 2017**, Osnabrueck 6-8th July 2017
31. **Fairhurst M.T.** What is special about touch? **ISATCA 2018** Dresden 1-2nd February 2018
32. **Fairhurst, M.T.**, Tajadura-Jiménez, A., Keller, P.E., Deroy, O. The sound of us walking together in time and space: Exploring how temporal coupling affects represented body size, peripersonal and interpersonal space in group interactions. **IMRF 2018** Toronto,, Canada 14-17th June 2018
33. **Fairhurst, M.T.** Doing things together in time: Temporal coordination in dyads and groups. **Aligned 2019**, Munich 6-8th May, 2019
34. **Fairhurst, M.T.** Walking together in groups. Invited talk University of Barcelona, 24th February, 2020
35. **Fairhurst, M.T.** A hunger for touch? Investigating the impact of changes in touch behaviour during & post COVID-19. Invited talk Liverpool John Moores University, 15th July, 2020
36. **Fairhurst, M.T.** A hunger for touch? Investigating the impact of changes in touch behaviour during & post COVID-19. **socialBRIDGES** 22-24th July 2020

Curriculum Vitae

Merle FAIRHURST

37. **Fairhurst, M.T.** Multisensory perception in the lab & in real-life. Keynote Medical Augmented Reality (MARSS2021) 2 September 2021

38. **Fairhurst, M.T.**, Tajadura-Jimenez, A., Keller, P., Deroy, O. (2021). Situating the “me” in the “we”: The effect of temporal coordination on how we move and how we feel about ourselves and other. En “European Society for Cognitive and Affective Neuroscience Conference (ESCAN 2021)”, June 23th-26th 2021, Virtual.

39. Bellard, A., Sun, W., Denkow, L., Najm, A., Michael-Grigoriou, D., Trotter, P., McGlone, F., **Fairhurst, M.**, Cazzato, V. (2021) The Virtual Touch Toolkit: Association with body image disturbances and responses to interpersonal touch, as measured by the ‘HandsOn’ application. *Body image & Related Disorders (BIRD2021)* 12 November 2021

40. **Fairhurst, M.T.**, Banakou, D. and Tajadura-Jiménez, A. The “me” in the “we”: Investigating subjectivity and the effect of group size & similarity in VR. (CHI 2021 Social VR Workshop) 7th May 2021, Virtual

41. **Fairhurst, M.T.** A more nuanced account of affective touch: capturing individual and cultural differences using digital tools (Research Centre for Brain and Behaviour, LJMU) 15 February 2022

42. **Fairhurst, M.T.** Together in time and in touch in virtual reality: novel approaches to studying interpersonal dynamics, (AVRA2022) 6th July 2022

ORGANISATION OF SCIENTIFIC MEETINGS

2021 Co-organiser of e-Conference: socialBRIDGES / International Association for the Study of Affective Touch (IASAT) – *Social distancing and touch* (29 June 2021)

2021 Organiser of e-Conference: socialBRIDGES – *The near future of AI: How will humans and AI interact in 5 years?* (21-23 April 2021)

2020 Organiser of e-Conference: socialBRIDGES – *Alignment in groups, networks and teams* (18-20 November, 2020)

2020 Organiser of e-conference: socialBRIDGES – *Society, psychology and behaviour during and post COVID-19 lockdown* (22-24 July 2020)

2019 Organiser of Conference: *Alignment in body & mind: Investigating and quantifying alignment in dynamic social interactions in Munich* (6-8th May 2019)

2017 Organiser of Symposium: *Trusting Our Senses: Metacognition and Confidence Across Sensory Modalities*. ICPS 2017, Vienna 23-25th March 2017

REVIEWING ACTIVITIES

2022 - present. Review editor, Frontiers in Human Neuroscience

2021 – present Action Editor, Psychological Research

2020 – 2021 Guest Editor SCAN special issue

2020 – 2021 Guest Editor Frontiers Psychology special issue

2007 – present Ad hoc Reviewer for Cerebral Cortex, Plos One, Journal of Neurophysiology, Consciousness & Cognition, Journal of Psychology, Neuroimage, Psychology & Neuroscience, Somatosensory & Motor Research, Behavioural Sciences, e-life, Developmental Cognitive Neuroscience, International Journal of Psychophysiology, Cognition, Frontiers in Psychology, Nature Translational Psychiatry, Nature Scientific Reports

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2009 – present Society for Neuroscience

INSTITUTIONAL RESPONSIBILITIES

2017 – present Examiner, MSc and PhD Projects, LMU Munich, Germany
 2019 – present Examiner, Bachelor, MSc and PhD Projects, Bundeswehr Universität

TEACHING EXPERIENCE

Tutor	<i>Physiology, Neuroscience</i>	University of Oxford	2006-2008
Supervisor	<i>M.Sc. Projects</i>	University of Oxford	2006-2008
Supervisor	B.Sc. and M.Sc. projects	LMU Munich	2017-present
Supervisor	B.Sc. and M.Sc. projects	UniBW	2019-present
Supervisor	<i>PHD Projects (M.C. Van der Steen, Marie Ragert)</i>		
	University of Leipzig	2011	
Semester course	<i>Music psychology</i>	University of Leipzig	Spring 2010
Semester course	<i>Music, Cognition & Action</i>	IMPRS, MPI CBS Leipzig	October 2010
Semester seminar	<i>Music and the mind</i>	LMU Munich	SS-2017
Semester seminar	<i>Fundamentals of the social mind</i>	LMU Munich	WS-2017
Semester seminar	<i>Action & Agency</i>	LMU Munich	SS-2018
Semester practical	<i>Empirical methods for philosophers</i>	LMU Munich	SS-2017; WS-2017; SS-2018
Semester seminar	Music and the mind	LMU Munich	WS-2019/20
Lecture	Biologische Psychologie	UniBW	HT2019/WT2020
Seminar	Grundlagenmodul Stress	UniBW	WT2020
Lecture	Biologische Psychologie und Pharmakologie	UniBW	HT2020/WT2021
Seminar	Grundlagenmodul Stress	UniBW	WT2021

PRIZES & FUNDING AWARDS

Warr-Goodman Graduate Scholarship	Lady Margaret Hall	2004-2005
Henrietta Jex Blake	Lady Margaret Hall	2005-2006
Cyclosporin Academic Award	Lady Margaret Hall	2007
Young Researcher, honourable mention	ICMPC	2010
Best paper, honourable mention	CHI 2015	2015
LMU Excellence Seed Funding	LMU, Munich	2018

BiDT

"Training through digital touch in hybrid contexts: putting humans in the learning loop"

Co-PI (963,000.00€)

