

DR MAGDALENA KACHLICKA

Cognitive Computational Neuroscience Lab
Institute of Computer Science, University of Bern
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EDUCATION

- PhD in Psychology, Birkbeck University of London** 2023
Thesis: Perceptual strategies underlying second language acquisition
Supervisors: Prof Adam Tierney (Birkbeck), Prof Kazuya Saito (UCL IOE), and Prof Fred Dick (UCL)
Examiners: Dr Emma Holmes (UCL) and Prof Sven Mattys (University of York)
- MPhil in Cognitive Science, University College London** 2020
Thesis: Mapping acoustic and semantic dimensions of auditory perception
Supervisors: Prof Jian Kang (UCL The Bartlett) and Prof Fred Dick (UCL)
Examiners: Prof Maria Chait (UCL) and Dr Pyoung-Jik Lee (University of Liverpool)
- MSc in Psychological Research Methods (Distinction)** 2018
Birkbeck University of London
Thesis: Individual differences in auditory processing in second language learning
Supervisor: Prof Adam Tierney
- BSc in Psychology (First Class), University of Nicosia** 2017
Thesis: Adaptation of the BHI-R questionnaire from Polish to Greek and English languages
Supervisor: Dr Marios Adonis

RESEARCH POSITIONS

- Advanced Postdoc** 2025–Present
Institute of Computer Science, University of Bern
Intrinsic neural timescales in the extended auditory network
- Honorary Research Fellow** 2025–Present
School of Psychological Sciences, Birkbeck University of London
Encoding of acoustic and linguistic information during second language learning (PI)
- IFRC Postdoctoral Research Fellow** Jun–Sep 2025
School of Psychological Sciences, Birkbeck University of London
Foundations of environmental sound perception in healthy listeners and cochlear implant users (PI)
- Postdoctoral Researcher** 2023–2025
School of Psychological Sciences, Birkbeck University of London
Dimension-selective attention and second language acquisition
- Research Collaborator** Jul–Oct 2022
University of Social Sciences and Humanities (Poznan, Poland)
Speech acoustics and contents of narrative reconstructions of past events as indicators of cognitive processing of trauma and posttraumatic growth
- Research Assistant** 2020–2023
Institute of Education, University College London
Does having a good ear promote successful second language speech learning?

RESEARCH FUNDING

British Academy/Leverhulme Small Research Grant, £9,918	2025
Encoding of acoustic and linguistic information during language learning (PI)	
Birkbeck's Wellcome Trust IFRC Postdoctoral Fellowship, £18,321	2025
Foundations of environmental sound perception in healthy listeners and cochlear implant users (PI)	
Language Learning Dissertation Grant, \$2,000	2022
Perceptual strategies underlying second language acquisition (PI)	
Student Research Fund, University College London, £1,650	2021
Representations of natural sound categories (co-PI)	

SCHOLARSHIPS

Bloomsbury Colleges Scholarship, Birkbeck & UCL Institute of Education, £68,802	2020–2023
ERC-funded Postgraduate Research Studentship, UCL The Bartlett, £44,278	2018–2020
Kenway Legacy Scholarship, Birkbeck University of London, £4,500	2017–2018
Scholarship Based on Academic Performance, University of Nicosia, €3,000	2016–2017

AWARDS

Albert Valdman Award for outstanding publication, Studies in Second Language Acquisition	2022
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TRAVEL AWARDS

Scholarship, Virtual Acoustics for Immersive Audio workshop, CCRMA, Stanford University	2025
Travel award, Computational Modelling for Language, University of California Irvine	2022
JUCE Diversity Scholarship, Audio Developers Conference	2019
Student travel award, Real-World Language workshop at the annual meeting of the Cognitive Science Society, University of Wisconsin, Madison, awarded by the University of Connecticut	2018

PUBLICATIONS

H-index: 14 | i10-index: 15 | [Google Scholar](#)

Kachlicka, M., Jasmin, K., Symons, A.E., Saito, K., Dick, F., & Tierney, A.T. (2026). English Prosody Dataset for investigating English prosody acquisition. Accepted for publication in Studies in Second Language Acquisition.

Saito, K., Tierney, A.T., Takizawa, K., Dardon, D., Li, C., **Kachlicka, M.**, Sugiura, M., & Jeong, H. (2026). Individual differences in motor and auditory activation in L2 speech learning: Roles of domain-general auditory processing. Accepted for publication in Journal of Experimental Psychology: General.

Symons, A.E.*, **Kachlicka, M.***, Dick, F., Saito, K., & Tierney, A.T. (2026). Strong primary cue weighting is linked to robust dimension-selective attention. *Cognition*, 274, 106561.

Kachlicka, M., Symons, A.E., Ruan, Y., Saito, K., Dick, F., & Tierney, A.T. (2026). Effects of targeted perceptual training on L2 prosodic cue weighting strategies. *Bilingualism: Language and Cognition*.

Ghooch Kanloo, A.H., **Kachlicka, M.**, Saito, K., & Tierney, A.T. (2026). Individual differences in perception of prosody in Mandarin-accented speech are linked to pitch perception, melody memory, musical training, and neural encoding of sound. *Brain and Language*, 273, 105689.

Kachlicka, M., Symons, A.E., Dick, F., Saito, K., & Tierney, A.T. (2026). Early neural encoding of pitch drives cue weighting during speech perception. *Imaging Neuroscience*.

Correia, S., dos Santos Rato, A.A., Fernandes, J.D., Ge, Y., **Kachlicka, M.**, Saito, K., & Rebuschat, P. (2025). Effects of phonetic training and cognitive aptitude on the perception and production of non-native speech contrasts. Studies in Second Language Acquisition, 47(1), 440–457.

Kachlicka, M., Symons, A.E., Saito, K., Dick, F., & Tierney, A.T. (2024). Tone language experience enhances dimension-selective attention and subcortical encoding but not cortical entrainment to pitch. Imaging Neuroscience, 2, 1–19.

Kachlicka, M., & Tierney, A.T. (2024). Voice actors show enhanced neural tracking of pitch, prosody perception, and music perception. Cortex, 178, 213–222.

Kachlicka, M., Patel, A.D., Liu, F., & Tierney, A.T. (2024). Weighting of cues to categorization of song versus speech in tone language and non-tone-language speakers. Cognition, 246, 105757.

Saito, K., **Kachlicka, M.**, Suzukida, Y., Mora-Plaza, I., Ruan, Y. & Tierney, A.T. (2024). Auditory processing as perceptual, cognitive, and motoric abilities underlying successful second language acquisition: Interaction model. Journal of Experimental Psychology: Human Perception and Performance, 50(1), 119–138.

Saito, K., Hanzawa, K., Petrova, K., **Kachlicka, M.**, Suzukida, Y., & Tierney, A.T. (2022). Incidental and multimodal high variability phonetic training: Potential, limits, and future directions. Language Learning, 72(4), 1049–1091.

Saito, K., Petrova, K., Suzukida, Y., **Kachlicka, M.**, & Tierney, A. T. (2022). Training auditory processing promotes second language speech acquisition. Journal of Experimental Psychology: Human Perception and Performance, 48(12), 1410–1426.

Saito, K., **Kachlicka, M.**, Suzukida, Y., Petrova, K., Lee, B.J., & Tierney, A.T. (2022). Auditory precision hypothesis-L2: Dimension-specific relationships between auditory processing and second language segmental learning. Cognition, 229, 105236.

Kachlicka, M., Laffere, A., Dick, F., & Tierney, A.T. (2022). Slow phase-locked modulations support selective attention to sound. NeuroImage, 252, 119024.

Saito, K., Macmillan, K., **Kachlicka, M.**, Kuniyara, T., & Minematsu, N. (2022). Automated assessment of second language comprehensibility: Review, training, validation, and generalization studies. Studies in Second Language Acquisition, 45, 234–263.

Saito, K., Macmillan, K., Kroeger, S., Magne, V., Takizawa, K., **Kachlicka, M.**, & Tierney, A.T. (2022). Roles of domain-general auditory processing in spoken second language vocabulary attainment in adulthood. Applied Psycholinguistics, 43, 581–606.

Saito, K., Sun, H., **Kachlicka, M.**, Alayo, J., Nakata, T., & Tierney, A.T. (2022). Domain-general auditory processing explains multiple dimensions of L2 acquisition in adulthood. Studies in Second Language Acquisition, 44(1), 57–86. Received the Albert Valdman award for outstanding publication in 2022.

Mitchell, A., Oberman, T., Aletta, F., **Kachlicka, M.**, Lionello, M., Erfanian, M., & Kang, J. (2021). Investigating urban soundscapes of the COVID-19 lockdown: A predictive soundscape modelling approach. The Journal of Acoustical Society of America, 150, 4474–4488.

Saito, K., **Kachlicka, M.**, Sun, H., & Tierney, A. (2020). Domain-general auditory processing as an anchor of post-pubertal second language pronunciation learning: Behavioural and neurophysiological investigations of perceptual acuity, age, experience, development, and attainment. Journal of Memory and Language, 115, 104168.

Mitchell, A., Oberman, T., Aletta, F., Erfanian, M., **Kachlicka, M.**, Lionello, M., & Kang, J. (2020). The Soundscape Indices (SSID) Protocol: A Method for Urban Soundscape Surveys—Questionnaires with Acoustical and Contextual Information. Applied Sciences, 10(7), 2397.

Kachlicka, M., Saito, K., & Tierney, A.T. (2019). Successful second language learning is tied to robust domain-general auditory processing and stable neural representation of sound. Brain and Language, 192, 15–24.

MANUSCRIPTS UNDER REVIEW

Saito, K., Suzukida, Y., Hosaka, I., Magne, V., **Kachlicka, M.**, Argyri, F., & Tierney, A.T. (2026, May). The bilingual advantage hypothesis revisited: Exploring the auditory processing abilities and executive function of bilingual and monolingual children with diverse biographical backgrounds.

Kachlicka, M., van den Bosch, J., Kang, J., & Dick, F. (2026, April). A selection of environmental sounds for behavioural and neuroimaging research: Introducing EnviSounds dataset.

Haydock, D., Leech, R., **Kachlicka, M.**, & Dick, F. (2025, November). Auditory cortical gradients integrate bottom-up and top-down structure during natural sound categorisation.

Nash, M.*, **Kachlicka, M.***, Pearce, M., Pathirana, P., & Tierney, A.T. (2025, September). Attention is required for prediction from short-term but not long-term learning of musical structure.

*Equal contributions.

CONFERENCE POSTERS & PRESENTATIONS

Nash, M.*, Tierney, A.T., Di Liberto, G., & **Kachlicka, M.** (2026, *scheduled*). Effects of proficiency and immersion experience on neural encoding of acoustic and linguistic information by Mandarin Chinese learners of English. Society for the Neurobiology of Language 18th Annual Meeting in Geneva, Switzerland.

Kachlicka, M.*, Christopoulos, A., Mignardot, C., Quiroga-Martinez, D.R., Willie, J.T., Brunner, P., Knight, R.T., & Tzovara, A. (2026, *scheduled*). Neural hierarchy for auditory and speech perception. Society for the Neurobiology of Language 18th Annual Meeting in Geneva, Switzerland.

Christopoulos, A.*, **Kachlicka, M.**, Mignardot, C., Quiroga-Martinez, D.R., Willie, J.T., Brunner, P., Knight, R.T., & Tzovara, A. (2026). Studying auditory processing along the extended network with iEEG. Organization for Human Brain Mapping Annual Meeting in Bordeaux, France.

Haydock, D.*, Leech, R., **Kachlicka, M.**, & Dick, F. (2026). Functional gradients integrate acoustic and semantic information in environmental sound categories. Organization for Human Brain Mapping Annual Meeting in Bordeaux, France.

Kachlicka, M.*, Christopoulos, A., Mignardot, C., Quiroga-Martinez, D.R., Willie, J.T., Brunner, P., Knight, R.T., & Tzovara, A. (2026). Neural hierarchy for auditory and speech perception. EEG Research Day, Center for Biomedical Imaging, Lausanne University Hospital, Switzerland.

Kachlicka, M.*, Jasmin, K., Saito, K., Dick, F., & Tierney, A.T. (2025). Cue weighting and frontotemporal connectivity during speech perception in tonal and non-tonal language speakers. The International Conference on Auditory Cortex in Maastricht, Netherlands.

Kachlicka, M.*, van den Bosch, J., Kang, J., Dick, F. (2025). A selection of environmental sounds for behavioural and neuroimaging research: Introducing EnviSounds dataset. The International Conference on Auditory Cortex in Maastricht, Netherlands.

Kachlicka, M.*, Symons, A.E., Ruan, Y., Saito, K., Dick, F., & Tierney, A.T. (2024). Effects of targeted perceptual training on L2 suprasegmental cue weighting strategies. 33rd Conference of the European Second Language Association in Montpellier, France.

Kachlicka, M.*, Symons, A.E., Saito, K., Dick, F., & Tierney, A.T. (2023). Effects of first language background and musical experience on cue weighting, attention and dimensional salience in speech and music. Society for the Neurobiology of Language 15th Annual Meeting in Marseille, France.

Kachlicka, M.*, van den Bosch, J., Kang, J., & Dick, F. (2022). Representations of natural sound categories. FENS Summer School: Artificial and natural computations for sensory perception in Bertinoro, Italy.

Mitchell, A.*, Aletta, F., Oberman, T., Erfanian, M., **Kachlicka, M.**, Lionello, M., & Kang, J. (2019). Making cities smarter with new soundscape indices. 178th Meeting of the Acoustical Society of America in San Diego, US.

Aletta, F.*, Oberman, T., Mitchell, A., Erfanian, M., Lionello, M., **Kachlicka, M.**, & Kang, J. (2019). Associations between soundscape experience and self-reported wellbeing in open public urban spaces: a field study. The Lancet: Public Health Science 2019 Conference in London, United Kingdom.

Kang, J.*, Aletta, F., Oberman, T., Erfanian, M., **Kachlicka, M.**, Lionello, M., & Mitchell, A. (2019). Towards soundscape indices. 23rd International Congress on Acoustics in Aachen, Germany.

*Presenting author.

INVITED TALKS

“Can you hear what I hear” (2025, September) Institute of Sound Recording, University of Surrey, UK

“EEG in educational neuroscience research” (2025, April) Educational Neuroscience Collaboration and Research (ENCoRe) pre-conference workshop, London, UK

“Dimensionality in auditory perception” (2024, October) University of Oxford, UK

“How does prior experience change the way we learn new languages” (2024, September) MULTAC Seminar, University College London Institute of Education, UK

“How does prior experience change the way we listen to sounds and learn new languages” (2024, June) University of Miami, US

“Auditory processing in second language learning” (2019, February) Brain & Language Seminar, University of Helsinki, Finland

TEACHING

Guest Lecturer, Experimental Neurology Center, Inselspital University Hospital Bern **2026**
Emerging Topics in Neuroscience (PG) *scheduled*

Tutor, University of Bern, Institute of Computer Science **2025–2026**
AI for Medicine seminar (PG)

Tutor, IMPRS Cognitive Neuroimaging Summer School **2024**
Research methods workshop (PG)

Guest Lecturer, Birkbeck Department of Psychological Sciences **2023–2024**
Language (UG)
Neuroimaging Methods (PG)

Supervisor & Project Coordinator, UCL Psychology and Language Sciences Department **2020–2022**
Research Methods in Psychology (UG)

Teaching Assistant, UCL Psychology and Language Sciences Department **2019–2024**
Introduction to Statistics with R (UG)
Introduction to Psychological Experimentation (UG)

Teaching Assistant, UCL Interaction Centre, Department of Computer Sciences **2019–2023**
Systems Engineering (UG)
App Design and Engineering (PG)

MENTORSHIP

Ms Mika Nash, Research Assistant, Birkbeck University of London **2025–Present**

Dr Alicja Olszewska, Postdoctoral Researcher, University of Warsaw **2024–2025**

Mr Amir Hossein Ghooch Kanloo, MSc Student, Birkbeck University of London **2023–2024**

SERVICE

Ad-hoc reviewer for: Studies in Second Language Acquisition, Applied Psycholinguistics, System, Imaging Neuroscience, Speech Communication.

ACTIVITIES

Co-Founder and Member of Post-Production Team, <u>ZEN Podcast</u>	2026–Present
Organising Committee Member, <u>Cognition and Natural Sensory Processing Workshop</u>	2024–Present
Mentor, <u>Polonium Foundation Mentoring Programme</u>	2024–Present
Course Organizer, <u>Methods for Dummies course in advanced neuroimaging methods</u> , UCL Institute of Neurology, Wellcome Centre for Neuroimaging	2019–2021

TECHNICAL SKILLS

Computational methods, statistics and analysis: Inferential statistics including mixed-effects modelling, machine learning (e.g. logistic regression, SVM, decision trees, neural networks), multidimensional scaling, clustering (e.g. hierarchical, affinity propagation, k-means), dimensionality reduction (e.g. PCA, LDA, t-SNE), similarity metrics (e.g. cosine, dynamic time warping, representational similarity analysis), inter-rater reliability, speech processing (e.g. acoustic morphing, continuous wavelet transforms), encoding and decoding models, NLP for speech and language analysis (e.g. NLTK, SpaCy, Stanza, WhisperAI, Montreal Forced Aligner, WordNet, GloVe, GPT/LLMs), audio signal processing and feature extraction (e.g. Essentia, Librosa, OpenSMILE), CLARIN tools for speech and language analytics.

Research methods: neurophysiology (scalp and intracranial EEG, FFR) and neuroimaging (fMRI), psychophysics, behavioural and cognitive assessments (design, validation, calibration, reliability), qualitative research (e.g. interview coding, thematic analysis), longitudinal and cross-sectional designs.

Programming: R (data wrangling, visualisations and statistics), Python (e.g. MNE, Scikit-learn, Parselmouth), MATLAB (e.g. STRAIGHT, FieldTrip, mTRF), JavaScript, CSS, HTML.

Software: Adobe Audition, Audacity, Praat, AFNI, Corteco, GitHub.