

# CÉSAR F. LIMA

Curriculum Vitae

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## Current Positions

- 2023- Associate Professor with Habilitation, Department of Psychology, Iscte - University Institute of Lisbon
- 2016- Affiliate Member, Institute of Cognitive Neuroscience, University College London

## Education

- 2011 Ph.D. in Psychology, University of Porto, Portugal
- 2008 M.Sc. in Psychology of Language and Neuropsychology, University of Porto
- 2007 Five-year degree in Psychology, University of Porto (grade, 18/20)

## Past Academic Positions and Employment

- 2017-2023 Assistant Professor, Department of Psychology, Iscte - University Institute of Lisbon
- 2016-2017 Senior Research Associate and Principal Investigator, Centre for Psychology at the University of Porto (FCT Investigator Grant Holder)
- 2015-2016 Senior Research Associate, Speech Communication Lab, Institute of Cognitive Neuroscience, University College London (PI: Prof. Sophie K. Scott)
- 2012-2015 Postdoctoral Fellow, Centre for Psychology at the University of Porto and Institute of Cognitive Neuroscience, University College London

## Research Interests

My research focuses on the psychology and neuroscience of vocal communication, music, and emotion. I am particularly interested in how we process vocal emotions and music, how this depends on individual characteristics of the listener (such as age or empathy), and how it is affected by neurological and psychiatric disorders. I am also interested in the neurocognitive consequences of music training, and in the role of sensorimotor areas in auditory and socio-emotional processes. These topics are addressed by combining techniques from experimental psychology and cognitive neuroscience (e.g., fMRI).

## Research Funding

- 2019-2023 'Music for the development of social skills: The impact of music training on socio-emotional processing', Portuguese Foundation for Science and Technology (FCT) Project Grant. Role: Principal Investigator (PI), €240.000
- 2021-2023 'Playback the music of the brain: Decoding emotions elicited by musical sounds in the human brain', FCT Project Grant. Role: Team Member (PI: Bruno Direito) €49.500
- 2019-2023 'Voice perception in the visually deprived brain: Behavioural and electrophysiological insights', Bial Foundation Grant. Role: Team Member (PI: Tatiana Magro), €40.000

2016-2021	'Understanding other's minds from the voice – The role of mentalizing and sensorimotor systems in vocal emotional processing', FCT Investigator Programme 2015. Role: PI, €50.000 + 5-year independent research contract, total ≈ €273.000
2010-2016	'Neurobiology of speech communication: Cognition, plasticity and social interactions', Wellcome Trust Senior Research Fellowship in Basic Biomedical Science. Role: Team Member (PI: Sophie Scott), £1.184.506
2013-2015	'Investigating links between music and vocal emotions', British Academy/Leverhulme Small Research Grants. Role: Co-PI (with Lauren Stewart), £10.000
2012-2015	'Listening to the bright side of life? The processing of vocal emotions in the ageing brain', Portuguese Foundation for Science and Technology Postdoctoral Fellowship, €73.000
2009-2013	'Emotional processing from language and music: Neurocognitive and functional neuroimaging studies', Bial Foundation Grant. Role: Team Member (PI: São Luís Castro), €38.000
2008-2011	'Music, speech and brain: A neurocognitive approach to emotion processing in speech and music', Portuguese Foundation for Science and Technology Doctoral Fellowship, €59.000
2005	'Reading in Portuguese: Implementing the Dual Route Cascade model', University of Porto/Caixa Geral de Depósitos Grant. Role: Team Member (PI: São Luís Castro), €5.000

### Peer-Reviewed Publications

(51 total; Google Scholar Profile: <https://scholar.google.co.uk/citations?user=LhKyjZoAAAAJ&hl=en>)

\* indicates joint first/senior authorship

- Schellenberg, E. G., & Lima, C. F. (2023). Music training and nonmusical abilities. *Annual Review of Psychology*. <https://doi.org/10.1146/annurev-psych-032323-051354>
- Correia, A. I., Lima, C. F., & Schellenberg, E. G. (2023). Self-awareness of musical ability. *Psychology of Aesthetics, Creativity, and the Arts*.
- Vincenzi, M.\*, Correia, A. I.\*, Vanzella, P., Pinheiro, A. P., Lima, C. F.\*, & Schellenberg, E. G.\* (2023). Associations between music training and cognitive abilities: The special case of professional musicians. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. <https://doi.org/10.1037/aca0000481>
- Schellenberg, E. G., Correia, A. I., & Lima, C. F. (2023). Is musical expertise associated with self-reported foreign-language ability? *Journal of Experimental Psychology: Human Perception and Performance*, *49*, 1083-1089.
- Correia, A. I., Vincenzi, M., Vanzella, P., Pinheiro, A. P., Schellenberg, E. G.\*, & Lima, C. F.\* (2022). Individual differences in musical ability among adults with no music training. *Quarterly Journal of Experimental Psychology*, *76*, 1585-1598.
- Neves, L., Correia, A. I., Castro, S. L., Martins, D., & Lima, C. F. (2022). Does music training enhance auditory and linguistic processing? A systematic review and meta-analysis of behavioral and brain data. *Neuroscience & Biobehavioral Reviews*, *140*, Article 104777.
- Vincenzi, M., Borella, E., Sella, E., Lima, C. F., De Beni, R., & Schellenberg, E. G. (2022). Music listening, emotion, and cognition in older adults. *Brain Sciences*, *12*, Article 1567.
- Martins, I., Lima, C. F., & Pinheiro, A. P. (2022). Enhanced salience of musical sounds in singers and instrumentalists. *Cognitive, Affective, and Behavioral Neuroscience*, *22*, 1044-1062.
- Correia, A. I., Vincenzi, M., Vanzella, P., Pinheiro, A. P., Lima, C. F.\*, & Schellenberg, E. G.\* (2022). Can musical ability be tested online? *Behavior Research Methods*, *54*, 955-969.
- Correia, A. I., Castro, S. L., MacGregor, C., Müllensiefen, D., Schellenberg, E. G., & Lima, C. F. (2022). Enhanced recognition of vocal emotions in individuals with naturally good musical abilities. *Emotion*, *22*, 894-906.
- Conde, T., Correia, A. I., Roberto, M. S., Scott, S. K., Lima, C. F., & Pinheiro, A. P. (2022). The time course of emotional authenticity detection in nonverbal vocalizations. *Cortex*, *151*, 116-132.

12. Cosme, G., Tavares, V., Nobre, G., Lima, C. F., Rosa, P., & Prata, D. (2022). Cultural differences in vocal emotion recognition: A behavioral and skin conductance study in Portugal and Guinea-Bissau. *Psychological Research*, *86*, 597-616.
13. Alderson-Day, B., Moffatt, J., Lima, C. F., Krishnan, S., Fernyhough, C., Scott, S. K., Denton, S., Leong, I. Y. T., Oncel, A. D., Wu, Y., Gurbuz, Z., & Evans, S. (2022). Susceptibility to auditory hallucinations is associated with spontaneous but not directed modulation of top-down expectations for speech. *Neuroscience of Consciousness*, *8*, 1-14.
14. Moreira, H. S., Costa, A. S., Machado, A., Castro, S. L., Vicente, S. \*, & Lima, C. F. \* (2022). Impaired recognition of facial and vocal emotions in mild cognitive impairment. *Journal of the International Neuropsychological Society*, *28*, 48-61.
15. Neves, L.\*, Martins, M.\*, Correia, A. I.\*, Castro, S. L., & Lima, C. F. (2021). Associations between vocal emotion recognition and socio-emotional adjustment in children. *Royal Society Open Science*, *8*, Article 211412.
16. Pinheiro, A. P., Anikin, A., Conde, T., Sarzedas, J., Chen, S., Scott, S. K., & Lima, C. F. (2021). Emotional authenticity modulates affective and social trait inferences from voices. *Philosophical Transactions of the Royal Society B – Biological Sciences*, *376*, Article 20200402.
17. Martins, M., Pinheiro, A. P., & Lima, C. F. (2021). Does music training improve emotion recognition abilities? A critical review. *Emotion Review*, *13*, 199-210.
18. Lima, C. F., Arriaga, P., Anikin, A., Pires, A. R.\*, Frade, S., Neves, L., & Scott, S. K. (2021). Authentic and posed emotional vocalizations trigger distinct facial responses. *Cortex*, *141*, 280-292.
19. Amorim, M., Anikin, A., Mendes, A., Lima, C. F., Kotz, S., & Pinheiro, A. P. (2021). Changes in vocal emotion recognition across the life span. *Emotion*, *21*, 315-325.
20. Cosme, G., Rosa, P. J., Lima, C. F., Tavares, V., Scott, S. K., Chen, S., Wilcockson, T. D. W., Crawford, T. J., & Prata, D. (2021). Pupil dilation reflects the authenticity of received nonverbal vocalizations. *Scientific Reports*, *11*, Article 3733.
21. Vilaverde, R. F., Correia, A. I., & Lima, C. F. (2020). Higher trait mindfulness is associated with empathy but not with emotion recognition abilities. *Royal Society Open Science*, *7*, Article 192077.
22. Lima, C. F., Correia, A. I., Müllensiefen, D., & Castro, S. L. (2020). Goldsmiths Musical Sophistication Index (Gold-MSI): Portuguese version and associations with socio-demographic factors, personality and music preferences. *Psychology of Music*, *48*, 376-388.
23. Pinheiro, A. P., Lima, D., Albuquerque, P. B., Anikin, A., & Lima, C. F. (2019). Spatial location and emotion modulate voice perception. *Cognition & Emotion*, *33*, 1577-1586.
24. Moreira, H. S., Costa, A. S., Machado, A., Castro, S. L., Lima, C. F.\*, & Vicente, S. F.\* (2019). Distinguishing mild cognitive impairment from healthy ageing and Alzheimer's disease: The contribution of the INECO Frontal Screening (ISF). *PLOS One*, *14*, Article e0221873.
25. Correia, A. I.\*, Branco, P.\*, Martins, M., Reis, A. M., Martins, N., Castro, S. L.\*, & Lima, C. F.\* (2019). Resting-state connectivity reveals a role for sensorimotor systems in vocal emotional processing in children. *NeuroImage*, *201*, Article 116052.
26. Jasmin, K.\*, Lima, C. F.\*, & Scott, S. K.\* (2019). Understanding rostral-caudal auditory cortex contributions to auditory perception. *Nature Reviews Neuroscience*, *20*, 425-434.
27. Lima, C. F., Anikin, A., Monteiro, A. C., Scott, S. K., & Castro, S. L. (2019). Automaticity in the recognition of nonverbal emotional vocalizations. *Emotion*, *19*, 219-233.
28. Krishnan, S., Lima, C. F., Evans, S., Chen, S., Guldner, S., Yeff, H., Manly, T., & Scott, S. K. (2018). Beatboxers and guitarists engage sensorimotor regions selectively when listening to the instruments they can play. *Cerebral Cortex*, *28*, 4063-4079.
29. Neves, L., Cordeiro, C., Scott, S. K., Castro, S. L., & Lima, C. F. (2018). High emotional contagion and empathy are associated with enhanced detection of emotional authenticity in laughter. *Quarterly Journal of Experimental Psychology*, *71*, 2355-2363.
30. Nunes, A., Limpo, T., Lima, C. F., & Castro, S. L. (2018). Short scales for the assessment of personality traits: Development and validation of the Portuguese Ten-Item Personality Inventory (TIPI). *Frontiers in Psychology*, *9*, Article 461.
31. Anikin, A., & Lima, C. F. (2018). Perceptual and acoustic differences between authentic and acted nonverbal emotional vocalizations. *Quarterly Journal of Experimental Psychology*, *71*, 622-641.

32. Moreira, H. S., Costa, A. S., Castro, S. L., Lima, C. F.\*, & Vicente, S.\* (2017). Assessing executive dysfunction in neurodegenerative disorders: A critical review of brief neuropsychological tools. *Frontiers in Aging Neuroscience*, 9, Article 369.
33. O’Nions, E.\* , Lima, C. F.\*, Scott, S. K., Roberts, R., McCrory, E., & Viding, E. (2017). Reduced laughter contagion in boys at risk for psychopathy. *Current Biology*, 27, 3049-3055.
34. Alderson-Day, B.\* , Lima, C. F.\*, Evans, S., Krishnan, S., Shanmugalingam, P., Fernyhough, C., & Scott, S. K. (2017). Distinct processing of ambiguous speech in people with non-clinical auditory verbal hallucinations. *Brain*, 140, 2475-2489.
35. Lima, C. F.\*, Brancatisano, O.\* , Fancourt, A., Müllensiefen, D., Scott, S. K., Warren, J. D., & Stewart, L. (2016). Impaired socio-emotional processing in a developmental music disorder. *Scientific Reports*, 6, 34911.
36. Lima, C. F., Krishnan, S., & Scott, S. K. (2016). Roles of supplementary motor areas in auditory processing and auditory imagery. *Trends in Neurosciences*, 39, 527-542.
37. Lima, C. F.\*, Lavan, N.\* , Evans, S., Agnew, Z., Halpern, A. R., Shanmugalingam, P., Meekings, S., Boebinger, D., Ostarek, M., McGettigan, C., Warren, J., & Scott, S. K. (2015). Feel the noise: Relating individual differences in auditory imagery to the structure and function of sensorimotor systems. *Cerebral Cortex*, 25, 4638-4650.
38. Meekings, S., Boebinger, D., Evans, S., Lima, C. F., Chen, S., Ostarek, M., & Scott, S. K. (2015). Do we know what we’re saying? The role of self-monitoring and sensory information in speech production. *Psychological Science*, 26, 1975-1977.
39. Boebinger, D., Evans, S., Rosen, S., Lima, C. F., Manly, T., & Scott, S. K. (2015). Musicians and non-musicians are equally adept at perceiving masked speech. *The Journal of the Acoustical Society of America*, 137, 378-387.
40. Lavan, N.\* , Lima, C. F.\*, Harvey, H., Scott, S. K., & McGettigan, C. (2015). I thought that I heard you laughing: Contextual facial expressions modulate the perception of authentic laughter and crying. *Cognition & Emotion*, 29, 935-944.
41. Lavan, N., & Lima, C. F. (2014). Neurocognitive mechanisms for vocal emotions: Sounds, meaning, action. *The Journal of Neuroscience*, 34, 12950-12952.
42. Moreira, H.\* , Lima, C. F.\*, & Vicente, S. (2014). Examining executive dysfunction with the Institute of Cognitive Neurology (INECO) Frontal Screening (IFS): Normative values in a healthy sample and clinical utility in Alzheimer’s disease. *Journal of Alzheimer’s Disease*, 42, 261-273.
43. Castro, S. L., & Lima, C. F. (2014). Age and musical expertise influence emotion recognition in music. *Music Perception*, 32, 125-142.
44. Lima, C. F., Alves, T., Scott, S. K., & Castro, S. L. (2014). In the ear of the beholder: How age shapes emotion recognition in nonverbal vocalizations. *Emotion*, 14, 145-160.
45. Lima, C. F., Garrett, C., & Castro, S. L. (2013). Not all sounds sound the same: Parkinson’s disease affects differently emotion processing in music and in speech prosody. *Journal of Clinical and Experimental Neuropsychology*, 35, 373-392.
46. Lima, C. F., Castro, S. L., & Scott, S. K. (2013). When voices get emotional: A corpus of nonverbal vocalizations for research on emotion processing. *Behavior Research Methods*, 45, 1234-1245.
47. Lima, C. F., & Castro, S. L. (2011). Speaking to the trained ear: Musical expertise enhances the recognition of emotional speech prosody. *Emotion*, 11, 1021-1031.
48. Lima, C. F., & Castro, S. L. (2011). Emotion recognition in music changes across the adult life span. *Cognition & Emotion*, 25, 585-598.
49. Castro, S. L., & Lima, C. F. (2010). Recognizing emotions in spoken language: A validated set of Portuguese sentences and pseudo-sentences for research on emotional prosody. *Behavior Research Methods*, 42, 74-81.
50. Lima, C. F., & Castro, S. L. (2010). Reading strategies in orthographies of intermediate depth are flexible: Modulation of length effects in Portuguese. *Journal of Cognitive Psychology*, 22, 190-215.
51. Lima, C. F., Meireles, L., Fonseca, R., Castro, S. L., & Garrett, C. (2008). The Frontal Assessment Battery (FAB) in Parkinson’s disease and correlations with formal measures of executive functioning. *Journal of Neurology*, 255, 1756-1761.

**Awards and Honors**

2013	Guarantors of Brain Travel Grant to attend the Society for Neuroscience Annual Meeting
2012	NIMH 2012 Summer Institute in Cognitive Neuroscience Fellow
2012	Most highly rated post-doctoral application, Portuguese Science Foundation
2008	Most highly rated PhD application, Portuguese Science Foundation
2008	Fundação Engenheiro António de Almeida Prize for high academic achievement
2004	Merit Prize (outstanding Psychology student of the year), Ministry of Science, Portugal

Honors for Supervised Work

2019	Ana Isabel Correia, Best Poster Award, XV PhD Meeting in Psychology, Iscte, Portugal
2015	Helena Moreira, Best Poster Award, III International Symposium of Neuropsychology and Rehabilitation, Portugal
2013	Helena Moreira, Best Poster Award, Active Ageing Conference 2013, Portugal

**Editorial and Reviewing Service**

2017-	Editorial Board Member, <i>Scientific Reports</i> , category Neuroscience (Nature group)
2019-	Associate Editor, <i>Royal Society Open Science</i> , Psychology and Cognitive Neuroscience section

Grant Reviewing

Dutch Research Council  
 Agence Nationale de la Recherche  
 The Leverhulme Trust  
 The Royal Society  
 Czech Science Foundation  
 Swiss National Science Foundation

Ad Hoc Reviewing

Psychological Bulletin	American Psychologist
Emotion	NeuroImage
Psychology and Aging	Social Neuroscience
Neuropsychologia	Quarterly Journal Experimental Psychology
Neuropsychology	Psychology of Music
Music Perception	Royal Society Open Science
Cognition & Emotion	Journal of Neurology
Journal of Clinical and Experimental Neuropsychology	Musicae Scientiae
Aging, Neuropsychology, and Cognition	Frontiers in Human Neuroscience
Journal of Nonverbal Behavior	PeerJ
European Journal of Neurology	The International Journal of Neuroscience
Journal of Geriatric Psychiatry and Neurology	Educational Psychology
Frontiers in Psychology – Auditory Neuroscience	Ampersand, J General and Applied Linguistics
Journal of Speech, Language, and Hearing Research	Frontiers in Psychology - Emotion Science
Frontiers in Psychology – Perception Science	Psychological Assessment
Psicologia: Reflexão e Crítica	Human Brain Mapping
Psychonomic Bulletin and Review	Journal Int. Neuropsychological Society
Experimental Aging Research	Psychological Research
The Journal of Gerontology: Psychological Sciences	Emotion Review
Neuroscience and Biobehavioral Reviews	Nature Human Behavior

(85 verified reviews; Reviewer Profile: <https://www.webofscience.com/wos/author/record/916786>)

## Collaborations

2021-	Sebastian Korb, University of Essex, UK Paulo Branco, Northwestern University, USA Yannis Paloyelis, King's College London, UK
2020-	Daniel Martins, King's College London, UK
2019-	E. Glenn Schellenberg, University of Toronto, Canada
2017-	Samuel Evans, University of Westminster, UK Andrey Anikin, University of Saint-Etienne, France
2015-	Ana P. Pinheiro, University of Lisbon, Portugal
2012-	Sophie K. Scott, University College London, UK
2008-	São Luís Castro, University of Porto, Portugal Selene Vicente, University of Porto, Portugal
2016-2020	Daniel Müllensiefen, Goldsmiths, University of London, UK Diana Prata, University of Lisbon, Portugal
2008-2013	Carolina Garrett, University of Porto, Portugal
2012-2016	Lauren Stewart, Goldsmiths, University of London, UK Jason Warren, University College London, UK
2015-2017	Essi Viding and Eamon McCrory, University College London, UK
2013-2015	Andrea Halpern, Bucknell University, USA
2013-2015	Nadine Lavan and Carolyn McGettigan, Royal Holloway, UK

## Invited Talks

- Lima, C. F. (2023, June). *Music and neuroplasticity*. Conference in Honor of Alexandre Castro Caldas, Católica Medical School, Lisbon.
- Lima, C. F. (2022, November). *Musical experience and the ability to read others' emotions*. Seminars in Neuroscience, Faculty of Sciences, University of Lisbon, Lisbon.
- Lima, C. F. (2022, June). *Are musicians better able to read others' emotions? Evidence from cross-sectional and longitudinal studies*. Research Seminars in Psychology and Cognitive Neuroscience, University of Jena, Jena, Alemanha.
- Lima, C. F. (2022, April). *Does music training enhance vocal emotional processing?* Cognitive Brain Research Unit Seminar Series, University of Helsinki, Helsinki, Finlândia.
- Lima, C. F. (2022, March). *How do we recognize emotions in others? Contributions of neuroscience*. Jornadas de Psicologia da Universidade Lusófona, Lisboa, Portugal.
- Lima, C. F. (2021, September). *Unpacking the links between music and emotion: Neurocognitive mechanisms and the role of experience*. Conference of the 6<sup>th</sup> Edition of the PhD in Cognitive and Language Sciences, Universidade Católica Portuguesa, Lisboa, Portugal.
- Lima, C. F. (2021, May). *From sound to emotion – Music, psychology and neuroscience*. Conference series '20 years of psychology at Universidade da Beira Interior', Universidade da Beira Interior, Covilhã, Portugal.
- Lima, C. F. (2021, April). *Psychology to our ears – Music, emotion, and brain*. Conference series 'All at home', organized by the National Association of Psychology Students, Lisbon, Portugal.
- Lima, C. F. (2021, March). *Musical experience the emotion recognition abilities*. Conference series 'Conversas Neuromusicais 2021', organized by the applied neuroscience group, Universidade Federal do ABC, Brazil.
- Lima, C. F. (2020, May). *What emotions are*. Talk series organized by The European Law Students' Association (ELSA), Universidade Católica Portuguesa, Porto, Portugal.
- Lima, C. F. (2019, December). *The emotional brain: Voice, music, and communication*. Universidade Autónoma de Lisboa, Lisbon, Portugal.
- Lima, C. F., (2019, December). *The voices of emotions: Neurocognitive basis of vocal emotional processing*. Universidade Católica Portuguesa, Lisbon, Portugal.
- Lima, C. F. (2019, February). *Individual differences in emotion recognition: Contributions from psychology and neuroscience*. II International Symposium on Emotional Thought, ISCTE-IUL, Lisbon, Portugal.

- Lima, C. F. (2018, November). *It's no laughing matter: Social affiliation and neural responses to laughter in children at risk for psychopathy*. II Congresso da Associação Portuguesa de Psicopatologia, ISCTE-IUL, Lisbon, Portugal.
- Lima, C. F. (2018, October). *The emotional life of voices*. Hearing the Voice Project, Durham University, Durham, UK.
- Lima, C. F. (2018, September). *Perceiving emotions in voices: Individual differences and brain mechanisms*. 2018 Biennial Meeting, Aphasia, Dementia and Cognitive Disorders Applied Research Group (World Federation of Neurology), Viana do Castelo, Portugal.
- Lima, C. F. (2018, September). *The psychology and neurobiology of vocal communication, emotion and music*. Centro Hospitalar Psiquiátrico de Lisboa, Lisboa, Portugal.
- Lima, C. F. (2018, June). *The musical brain*. Seminar, Porto's School of Music and Performing Arts, Portugal.
- Lima, C. F. (2018, May). *The neurocognition of vocal emotional communication*. XI Neuropsychological Seminar, Lubin, Poland.
- Lima, C. F. (2018, February). *Emotional voices: Exploring individual differences in the neurocognition of vocal emotional processing*. IMM – Instituto de Medicina Molecular João Lobo Antunes, Lisboa, Portugal.
- Lima, C. F. (2016, June). *Vocal emotional processing in typical and atypical populations*. ICN Monday Seminar, Institute of Cognitive Neuroscience, University College London, UK.
- Lima, C. F. (2016, February). *Vocal emotional processing across the adult life span*. Language and Development Seminars, Department of Experimental Psychology, University of Oxford, UK.
- Lima, C. F., Brancatisano, O., Fancourt, A., & Stewart, L. (2015, July). *Vocal emotion recognition and musicianship: Explorations in musicians and in congenital amusics*. Conference of the International Society for Research on Emotion, University of Geneva, Switzerland.
- Lima, C. F. (2015, March). *Exploring the neurocognition of vocal emotions: Links to ageing and music*. Center for Research in Psychology, University of Lisbon, Portugal.
- Lima, C. F. (2014, October). *Voice matters – Neurocognitive mechanisms for vocal emotional communication across the adult lifespan*. III Interlabs Seminar, University of Porto, Portugal.
- Lima, C. F. (2014, October). *Musical emotions – Neural correlates and psychological mechanisms*. XXI Week of Psychology and Education Sciences, University of Porto, Portugal.
- Lima, C. F. (2014, June). *Listening to other's emotions: Auditory emotion recognition and its modulation in normal and pathological ageing*. Grupo de Estudos de Linguagem, Hospital de Santa Maria, Lisbon, Portugal.
- Lima, C. F. (2014, May). *Brain structure predicts individual differences in auditory imagery*. Departmental Teatime Talk, Institute of Cognitive Neuroscience, University College London, UK.
- Lima, C. F. (2013, June). *Emotion and the aging brain*. Lusófona University, Porto, Portugal.
- Lima, C. F. (2013, February). *The voice is more than words: Automaticity and age differences in perceiving nonverbal emotion vocalizations*. Speech Science Forum, Chandler House, University College London, UK.
- Lima, C. F. (2013, January). *How can musical practice influence emotion-related and cognitive abilities?* Workshop “Music in the rehabilitation of patients with memory and learning deficits”, European Brain and Music ITN Marie-Curie Project, University of Lille, France.
- Lima, C. F. (2013, January). *How does the ageing brain deal with nonverbal emotion vocalizations?* Departmental Teatime Talk, Institute of Cognitive Neuroscience, University College London, UK.
- Lima, C. F. (2009, May). *Neurocognition of emotional processing in language and music*. School of Psychology, University of Minho, Braga, Portugal.

#### **Conference Presentations (as first or senior author only)**

- Lima, C. F. (2022, July). *Do facial responses contribute to the processing of authenticity in auditory emotions?* Talk presented at the 6<sup>th</sup> Bi-annual Meeting of the European Society for Cognitive and Affective Neuroscience (ESCAN), Viena, Austria.

- Lima, C. F., Arriaga, P., Anikin, A., Pires A. R., Frade, S., Neves, L., & Scott, S. K. (2021, April). *Facial responses during perception predict authenticity evaluations of laughter*. Poster presented at the Experimental Psychology Society Online Meeting, London, UK.
- Pinheiro, A. P., Anikin, A., Scott, S. K., & Lima, C. F. (2021, January). *The effects of authenticity on evaluations of trust and dominance in emotional voice perception*. Poster presented at the Experimental Psychology Society Online Meeting, London, UK.
- Lima, C. F. (2019, September). *Neurocognitive mechanisms for vocal emotional processing in humans*. Talk presented at Protolang 6, Fundação Calouste Gulbenkian, Lisbon, Portugal
- Lima, C. F., Correia, A. I., Branco, P., Martins, M., Reis, A. M., Martins, N., & Castro, S. L. (2019, June). *Sensorimotor contributions to auditory emotion recognition in children: A resting-state fMRI study*. Poster presented at the Organization for Human Brain Mapping Annual Meeting, Rome.
- Lima, C. F., Alderson-Day, B., Evans, S., Krishnan, S., Shanmugalingam, P., Fernyhough, C., & Scott, S. K. (2018). *Spontaneous decoding of ambiguous speech in individuals with non-clinical auditory hallucinations*. Talk presented at the European Society for Cognitive and Affective Neuroscience (ESCAN) meeting, Leiden, the Netherlands.
- Lima, C. F., Correia, A. I., Branco, P., Martins, M., Reis, A. M., Martins, N., & Castro, S. L. (2018, June). *Resting-state functional connectivity predicts vocal emotion recognition in children*. Poster presented at the Organization for Human Brain Mapping Annual Meeting, Singapore.
- Correia, A. I., Branco, P., Martins, M., Reis, A. M., Martins, N., Castro, S. L., & Lima, C. F. (2017, May). *Resting-state functional connectivity indexes individual differences in emotional prosody recognition in children*. Poster presented at the 12.º Meeting of the Portuguese Association for Experimental Psychology, Universidade do Porto, Porto, Portugal.
- Correia, A. I., Branco, P., Martins, M., Reis, A. M., Martins, N., Castro, S. L., & Lima, C. F. (2017, February). *Resting-state connectivity between inferior frontal and premotor cortices predicts auditory emotion recognition in children*. Talk presented at iJUP 18, Universidade do Porto, Porto, Portugal.
- Lima, C. F., Follett, D., Kemeny, R., Aylward, J., Robinson, O., Roiser, J., & Scott, S. K. (2017, March). *Biased recognition of authentic and posed vocal emotional expressions in depression*. Poster presented at ICPS 2017 – International Convention of Psychological Science, Vienna, Austria.
- Lima, C. F., O’Nions, E., Roberts, R., Lickley, R., Scott, S. K., McCrory, E., & Viding, E. (2016, August). *Reduced sensorimotor responses to laughter in children with conduct problems and high callous-unemotional traits*. Poster presented at the Society for the Neurobiology of Language Annual Meeting, London, UK.
- Lima, C. F., O’Nions, E., Roberts, R., Lickley, R., Scott, S. K., McCrory, E., & Viding, E. (2016, June). *Neural and behavioural responses to laughter in children with conduct problems and high callous-unemotional traits*. Poster presented at the UCL Neuroscience Symposium, University College London, UK.
- Lima, C. F., Lavan, N., Evans, S., Agnew, Z., Scott, S. K. (2016, April). *Individual differences in auditory emotion processing in older adults are reflected in brain structure*. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, New York City, USA.
- Lima, C. F., Lavan, N., Evans, S., Agnew, Z., Halpern, A. R., Shanmugalingam, P., ... Scott, S. K. (2015, November). *Individual differences in auditory imagery predict structure and function of sensorimotor systems*. Talk presented at the Psychonomic Society’s 56<sup>th</sup> Annual Meeting, Chicago, USA.
- Lima, C. F., Lavan, N., Evans, S., Agnew, Z., Halpern, A. R., Shanmugalingam, P., ... Scott, S. K. (2015, October). *Feel the noise: Individual differences in perceived vividness of auditory imagery are reflected in human brain structure*. Poster presented at the Society for the Neurobiology of Language Annual Meeting, Chicago, USA.
- Lima, C. F., Lavan, N., Evans, S., Castro, S. L., & Scott, S. (2015, April). *Brain morphology substrates of preserved vocal emotion recognition in ageing*. Talk presented at the 10.º Meeting of the Portuguese Association for Experimental Psychology, Universidade do Algarve, Faro, Portugal.
- Lima, C. F., Lavan, N., Evans, S., Agnew, Z., Shanmugalingam, P., Warren, J., Castro, S. L., & Scott, S. K. (2014, November). *Profiles of age-related structural decline and stability in neuroanatomical systems supporting vocal emotion processing*. Poster presented at the Annual Meeting of the Society for Neuroscience, Washington DC, USA.



- Lima, C. F., Lavan, N., Evans, S., Agnew, Z., Shanmugalingam, P., Warren, J., Castro, S. L., & Scott, S. K. (2014, August). *Profiles of age-related structural decline and stability in neuroanatomical systems supporting vocal emotion processing*. Poster presented at the Society for the Neurobiology of Language Annual Meeting, Amsterdam, Netherlands.
- Castro, S. L., Monteiro, A. C., Scott, S. K., & Lima, C. F. (2014, April). *Can you laugh again? More automatic recognition of negative than of positive vocal emotions*. Talk presented at the 9.º Meeting of the Portuguese Association for Experimental Psychology, Universidade da Beira Interior, Covilhã, Portugal.
- Lima, C. F., Lavan, N., Agnew, Z., Evans, S., Shanmugalingam, P., McGettigan, C., & Scott, S. F. (2013, November). *Investigating age-related differences in neural systems supporting the processing of emotion vocalizations*. Poster presented at the Annual Meeting of the Society for Neuroscience, San Diego, USA.
- Lima, C. F., Alves, T., Castro, S. L., & Scott, S. K. (2012, October). *In the ear of the beholder: Age-related modulations in the perception of vocal emotions*. Poster presented at the Institute of Cognitive Neuroscience – University College London Poster Event, London, UK.
- Castro, S. L., & Lima, C. F. (2011, September). *Musical expertise and age affect how we recognize emotions in music*. Poster presented at the 17<sup>th</sup> Meeting of the European Society for Cognitive Psychology, Donostia – San Sebastian, Spain.
- Lima, C. F. (2011, August). *Emotion perception in speech prosody and in music: Modulations related to ageing, musical training, and Parkinson's disease*. Poster presented at the International Summer School in Affective Sciences 2011, Château de Bossey, Bogis-Bossey, Switzerland.
- Lima, C. F., Garrett, C., & Castro, S. L. (2011, June). *Does emotion perception in music and speech recruit common neurocognitive substrates? A dissociation in Parkinson's disease*. Poster presented at the Neurosciences and Music – IV Conference, Assembly Hall & The Hub, Edinburgh, Scotland, UK.
- Lima, C. F., Garrett, C., & Castro, S. L. (2011, March). *Domain-specific processes in emotion perception in music and speech: A study of Parkinson's disease*. Talk presented at the 6.º Meeting of the Portuguese Association for Experimental Psychology, Universidade de Coimbra, Coimbra, Portugal.
- Castro, S. L., & Lima, C. F. (2011, March). *Emotional processing in language and music: A comparative neurocognitive approach*. Poster presented at the Bial Foundation 9<sup>th</sup> Symposium, Behind and Beyond the Brain – Sleep and Dreams, Casa do Médico, Porto, Portugal.
- Lima, C. F., Garrett, C., & Castro, S. L. (2010, October). *Emotion recognition in music and basal ganglia dysfunction: A study of Parkinson's Disease*. Poster presented at the 2010 Social and Affective Neuroscience Society Conference, W Hotel City Center, Chicago, Illinois, USA.
- Lima, C. F., & Castro, S. L. (2010, March). *Musical expertise enhances emotion perception in speech*. Talk presented at the 5.º Meeting of the Portuguese Association for Experimental Psychology, University of Minho, Braga, Portugal.
- Castro, S. L., & Lima, C. F. (2009, November). *Emotion recognition in prosody is faster for pseudo-sentences than for sentences*. Poster presented at the 50<sup>th</sup> Annual Meeting of the Psychonomic Society, Sheraton Boston Hotel, Boston, Massachusetts, USA.
- Lima, C. F., & Castro, S. L. (2009, April). *Ageing and emotion recognition in music*. Talk presented at the 4.º Meeting of the Portuguese Association for Experimental Psychology, Instituto Superior de Psicologia Aplicada, Lisbon, Portugal.
- Lima, C. F., & Castro, S. L. (2008, December). *Age-related changes in emotion recognition from music*. Poster presented at the VI International Symposium of Portuguese Researchers, University of Lisbon, Lisbon, Portugal.
- Lima, C. F., Meireles, L., Fonseca, R., Garrett, C., & Castro, S. L. (2008, July). *Screening executive dysfunction in Parkinson's disease with the Frontal Assessment Battery*. Poster presented at the XXIX International Congress of Psychology, ICC Berlin, Berlin, Germany.
- Lima, C. F., & Castro, S. L. (2008, March). *Grapheme-phoneme conversion in skilled reading in Portuguese*. Poster presented at the 3.º Meeting of the Portuguese Association for Experimental Psychology, University of Algarve, Algarve, Portugal.
- Lima, C. F., & Castro, S. L. (2007, September). *How does length affect reading in languages of intermediate orthographic consistency? Evidence from Portuguese*. Talk presented at the XV Conference of the European Society for Cognitive Psychology (ESCoP), Université de Provence, Marseille, France.

- Castro, S. L., & Lima, C. F. (2007). *Differential effects of word length and frequency in naming and lexical decision*. Poster presented at the Association for Psychological Science 19<sup>th</sup> Annual Convention, Hilton, Washington, Washington DC, USA.
- Lima, C. F., Meireles, L. P., Fonseca, R., Gago, M., Guimarães, J., Rosas, M. J., ... Garrett, C. (2007, June). *Executive dysfunction in Parkinson's disease: Is Frontal Assessment Battery a useful test?* Talk presented at the 21.<sup>a</sup> Meeting of the Research Group on Brain Aging and Dementia, Grande Hotel do Luso, Luso, Portugal.

## Supervision and Mentoring

### Postdoctoral Researchers

2019- Marta Martins

### PhD Students

2023- Rafael Ribeiro, emotional granularity and emotion processing in music  
 2022- Aíssa Baldé, psychoacoustic processing, musical expertise, and speech perception  
 2020- Ricardo Vilaverde, sensorimotor mechanisms and vocal emotions  
 2019- Ana Isabel Correia, musical expertise and vocal emotions  
 2018-2023 Leonor Neves, musical training and socio-emotional processing in children  
 2015-2021 Helena Moreira (co-supervisor), emotion processing in mild cognitive impairment  
 (all these students were awarded PhD studentships in competitive national calls)

### MSc Students

2023- Rafael Ribeiro  
 Manuel Gomes  
 Margarida Moreira  
 Marina Medeiros  
 2021- Raquel Machado  
 2020-2022 Sofia Menezes  
 Vera Guerreiro  
 Rui Mendes  
 2020-2021 Aíssa Baldé  
 2019-2021 Duarte Pinto  
 2018-2019 Ana Rita Pires  
 Ricardo Vilaverde  
 2015-2016 Ana Isabel Correia  
 2014-2015 Teresa Neves  
 Ana Cordeiro  
 Ana Esquível  
 2013-2014 Olivia Brancatisano  
 2012-2013 Tiago Alves  
 Ana Monteiro

### Interns and Research Assistants

2023- Jagoda Szwalbe  
 2021-2023 Matilde Rebello de Andrade  
 Laura Salsinha  
 2019-2020 Marta Pereira  
 2018-2019 Ana Catarina Loureiro  
 Lucas Naumann  
 2017-2019 Ana Isabel Correia  
 2013-2014 Amy Fancourt  
 2009-2011 Susana Carvalho  
 2008-2009 Maria Luis Almeida

PhD Thesis Committee Member

2023	Christine Nussbaum, University of Jena, Germany Rafael Román-Caballero, Universidad de Granada, Spain
2022	Marisa Raposo, Universidade Católica Portuguesa, Portugal
2021	Paula Castiajo, University of Minho, Portugal Susana Azevedo, Universidade Católica Portuguesa, Portugal
2020	Maria Leonor Coito, University of Lisbon, Portugal Margarida Vasconcelos, University of Minho, Portugal

MSc Dissertation Committee Member

2022	Laura Ramos, University of Porto, Portugal Tânia Muratori, Iscte, Portugal
2021	Sara Temudo, University of Lisbon, Portugal
2020	Rui Gomes, University of Porto, Portugal Inês Martins, University of Lisbon, Portugal João Sarzedas, University of Lisbon, Portugal
2018	Mónica Costa, University of Lisbon, Portugal Franziska Stanke, University of Lisbon, Portugal Svetlana Postarnak, University of Lisbon, Portugal
2017	Joana Antunes, University of Porto, Portugal Juliana Silva, University of Porto, Portugal Joana Figueiredo Ferreira, University of Minho, Portugal
2016	Ana Boaventura Mesquita, University of Porto, Portugal Augusto Mendes, University of Minho, Portugal Susan Franzen, Middlesex University/Professional Development Foundation, UK
2014	Ana Chousa, Department of Psychology, University of Porto, Portugal Marcel Daane, Middlesex University/Professional Development Foundation, UK
2013	Oliver Damm, Middlesex University/Professional Development Foundation, UK
2012	Helena Moreira, Department of Psychology, University of Porto, Portugal

**Teaching**Courses and Lectures

2017-	Iscte: Psychophysiology and Genetics (B.Sc. Psychology); Neuropsychology (B.Sc. Psychology); Reasoning and Language (B.Sc. Psychology); Advances in Affective Neuroscience (M.Sc. Emotion Sciences); Biological Bases of Emotions (MSc Emotion Sciences); Positive Emotions (MSc Emotion Sciences); Cognition and Emotion (MSc Emotion Sciences)
2015-2016	Academic Tutor, BSc Psychology and Language Sciences Year 2 Academic Tutorials, Division of Psychology and Language Sciences, University College London
2014	Guest Lecturer, Cognitive and Affective Neuroscience course, Psychology PhD Programme, Department of Psychology, University of Porto
2008-2013	Teaching Assistant, Department of Psychology, University of Porto

Single Invited Lectures

2015	'The neurocognition of vocal communication', MSc Cognitive Science, University of Lisbon
2013	'Getting published in Psychology', Psychology PhD Programme, University of Porto
2011	'Expertise and problem solving', BSc Psychology, University of Porto

- 2009 'Emotion and cognitive processes', BSc Psychology, University of Porto  
 2008 'Normal and pathological ageing', MSc Psychology, University of Porto

#### Continuing Professional Development

- 2015 Co-designed and supervised the short-duration courses 'Neuropsychological Rehabilitation: From Theory to Practice' and 'Neuropsychological screening tools' Continuing Professional Development Centre, University of Porto
- 2011-2017 Assessor (essay marking) for the MSc Professional Development (Neuroscience of Leadership), Professional Development Foundation (and Middlesex University)

#### **Academic Service**

- 2021- Director MSc Emotion Sciences  
 2019- Scientific Committee member, Department of Psychology, Iscte Admissions, Special Contest for Candidates Over 23 Years Old
- 2018-2022 Erasmus coordinator, Department of Psychology, Iscte  
 Year 2 coordinator, BSc in Psychology  
 Involvement in Open Days (Academia Iscte)
- 2018-2019 Director MSc Emotion Sciences  
 2012-2015 Scientific Committee, Centre for Psychology, University of Porto  
 2012-2015 Organization of the seminar series "In the lab talking to", University of Porto, Portugal

#### **Specialized Training**

- Workshop 'Theory and practice of Bayesian hypothesis testing: A JASP workshop', Amsterdam (2017)
- Workshop 'The Application of Pupillometry in Hearing Science to Assess Listening Effort', VU University Medical Center, Amsterdam (2015)
- 'NIMH 2012 Summer Institute in Cognitive Neuroscience', University of California, Santa Barbara
- 'International Summer School in Affective Sciences 2011', University of Geneva, Geneva
- Workshop 'Child-oriented research techniques and protocols in clinical, behavioral and brain imaging domains', Mariani Foundation, Edinburgh (2011)
- 'BrainVoyager QX Training Course', Brain Imaging Network, Coimbra (2011)
- Neuroscience training courses, Faculty of Medicine, University of Porto (2008-2009): limbic system; neuronal plasticity; neurodegeneration; neuroimaging; neuroanatomy
- Training course 'Multiple Choice Tests', University of Porto (2008)
- Internship in Neuropsychology, Neurology Department, Hospital S. João, Porto (2006-2007; 400 hours)
- Workshop 'Clinical and Therapeutic Communication' (G. Prigatano and Y. Ben-Yishay; 2006)

#### **Outreach**

##### Media

- 2022 Interview to 'Sociedade Civil', national public television (RTP 2)
- 2021 Interview to '90 segundos de ciência', national radio channel Antena 1
- 2019 Interview to the newspaper Público on nonverbal emotional vocalizations
- 2018 Media coverage of the paper Krishnan et al. (2018, Cerebral Cortex): Daily Mail; ScienceDaily
- 2017 Media coverage of the paper Alderson-Day, Lima, et al. (2017, Brain): BBC Radio 5 (about 1:29 onwards); BBC World Service (about 10:29 onwards); Daily Mail; ScienceBlog; Popular

Science. Portuguese press: Diário de Notícias; Porto Canal; Notícias Universidade do Porto. We also wrote a post for the OUPblog that explains the study in more detail.

- 2016 The Guardian 'brain waves' film 'Billy Bragg's brain scan: the Americana anthem that cured my fear of flying' – design of fMRI experiment and interview
- Articles in the Rhinegold, Daily Mail, and Jersey Evening Post – coverage of the paper Lima et al. (2016, Scientific Reports)
- BBC Four documentary 'Soundwaves' – scanner operator (real-time MRI sequence with the opera singer Lesley Garrett)
- BBC Two Horizon programme 'Jimmy Carr and the Science of Laughter' – scanner operator (real-time MRI sequence illustrating laughter and speech production)
- 2015 New Scientist feature 'Self-mastery can be yours with three pillars of emotional wisdom'
- Quillette Magazine feature 'Why do we get songs stuck in our heads? Explaining your earworm' – coverage of the paper Lima, Lavan, et al. (2015, Cerebral Cortex)
- 2014 Articles in the Portuguese press (Observador, Correio da Manhã, TVI 24, Notícias UP, Diário de Notícias) and live interview for the news programme Bom Dia, RTP – coverage of the paper Moreira, Lima, and Vicente (2014, Journal of Alzheimer's Disease)
- 2013 Articles in the Portuguese press (Sic Notícias, TSF, Notícias UP) – coverage of the paper Lima et al. (2013, Journal of Clinical and Experimental Neuropsychology)

#### Public Engagement Events

- 2017 'Science and Innovation Display at University of Porto', Porto
- 2015 'The Neuroscience of Laughter', secondary school Graveney School, London
- 2014 '12<sup>th</sup> Annual Science and Innovation Display at University of Porto', Porto
- 2013 'LOL – The Science and Art of Laughter', Big Bang Fair, London  
Table-top demonstrations at 'The Voice', Wellcome Trust, London  
'ZombieLab – Grappling with Consciousness', Science Museum, London  
'Diagnosing a Zombie' – Lates at Science Museum, London
- 2012 Open day of the Faculty of Psychology and Education, University of Porto
- 2009 '7<sup>th</sup> Annual Science and Innovation Display at University of Porto', Porto
- 2008 Open day of the Faculty of Psychology and Education, University of Porto
- 2005 '3<sup>rd</sup> Annual Science and Innovation Display at University of Porto', Porto

#### **Specialist/Technical Expertise**

Analysis of functional and structural (voxel-based morphometry) MRI data; neuropsychological evaluation; extensive experience testing special populations using behavioral and MRI paradigms (e.g., depression patients; ageing adults; Parkinson's disease patients; professional musicians; non-clinical voice hearers)

Last updated: July 2023