

RAFAEL RAMIREZ-MELENDZ

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Associate Professor and Leader of the Music and Machine Learning Lab at the Department of Engineering, Universitat Pompeu Fabra, Barcelona. BSc in Mathematics from the National Autonomous University of Mexico, and MSc and PhD in Artificial Intelligence from the University of Bristol, UK. For five years, Lecturer at the National University of Singapore. His research interests include artificial intelligence, machine learning, music technology, and music and health. He has led several EU and Spanish funded projects. He has published more than 120 research articles in peer-reviewed international Journals and Conferences.

Education

JANUARY 1993 - FEBRUARY 1997	Computer Science Department, Bristol University, Bristol, UK. Ph.D. Computer Science
OCTOBER 1991 - OCTOBER 1992	Computer Science Department, Bristol University, Bristol, UK. M.Sc. Computer Science in Artificial Intelligence.
OCTOBER 1986 - SEPTEMBER 1991	Universidad Nacional Autónoma de México, Mexico City, Mexico. B.Sc. Honours Mathematics (with Distinction).
OCTOBER 1980 - SEPTEMBER 1988	National School of Music, UNAM, Mexico City, Mexico. Musical Studies Grade 5 classical Guitar, Grade 8 classical Violin.

Professional Experience

APRIL 2011 - PRESENT	Department of Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona. Associate Professor – Head of the Music and Machine Learning Lab
APRIL 2013 - PRESENT	Institute for Continuous Education, Master in Music Therapy, Universitat de Barcelona, Barcelona. Associate Professor – Research Coordinator
APRIL 2003 - MARCH 2008	Department of Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona. Assistant Professor
SEPTEMBER 2002 - MARCH 2003	Department of Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona. Visiting Lecturer
MAY 2002 - AUGUST 2002	Institut National de Recherche en Informatique et en Automatique (INRIA), France. Research Fellow
JANUARY 1999 - ABRIL 2002	School of Computing, National University of Singapore, Singapore. Lecturer
MARCH 1997 - DECEMBER 1998	School of Computing, National University of Singapore, Singapore. Postdoctoral Fellow.

Research Visits / Stages

- Nagoya Institute of Technology, Japan (2025)
- National University of Singapore, Singapore (2019)
- Nagoya Institute of Technology, Japan (2018)
- Psychology Department, Leiden University, Netherlands (2016)
- Computer Science Department, Vrije Universiteit Brussel, Brussels, Belgium, (2013)
- Center for Computer Research in Music and Acoustics, Stanford University, USA (2011).
- School of Informatics, City University London, UK (2009).
- Computer Science Department, Universidad Carlos III de Madrid, Spain (2009).

- Computer Science Department, National University of Singapore, Singapore (2007).
- Faculty of Music Studies, University of Athens, Greece (2006).
- School of Music and Sonic Arts, Queen's University Belfast, UK (2005).
- Languages and Computer Systems Department, Alicante University, Spain (2005).
- Computer Science Department, National University of Singapore, Singapore (1997-2002).
- Institute of Applied Mathematics and Systems, National University of Mexico, Mexico, (1999).
- Computer Science Department, Bristol University, UK, (1991-1997).

Professional Activities

Chair

- 15th International Workshop on Machine Learning and Music 2024 (ECML, Vilnius, Lithuania).
- 14th International Workshop on Machine Learning and Music 2021 (Barcelona, Spain).
- 13th International Workshop on Machine Learning and Music 2020 (ECML, online).
- 12th International Workshop on Machine Learning and Music 2019 (ECML, Würzburg, Germany).
- 11th International Workshop on Machine Learning and Music 2018 (ICML, Stockholm, Sweden).
- 10th International Workshop on Machine Learning and Music 2017, Barcelona, Spain (musml.weebly.com)
- 9th International Workshop on Machine Learning and Music 2016, ECML-PKDD 2016, Riba del Garda, Italy (<https://sites.google.com/site/musicmachinelearning16>).
- 8th International Workshop on Machine Learning and Music 2015, ISEA 2015, Vancouver, Canada (<https://sites.google.com/site/musicmachinelearning15>).
- 7th International Workshop on Machine Learning and Music 2014, Barcelona, Spain. (<https://sites.google.com/site/musicmachinelearning14>).
- 6th International Workshop on Machine Learning and Music 2013, European Conference on Machine Learning ECML/PKDD 2013, Prague, Czech Republic (<https://sites.google.com/site/musicmachinelearning13>).
- 5th International Workshop on Machine Learning and Music 2012, International Conference on Machine Learning ICML 2012, Edinburgh, UK (<https://sites.google.com/site/musicmachinelearning12>).
- 4th International Workshop on Machine Learning and Music 2011, Neural Information Processing Systems NIPS 2011, Granada, Spain, (<https://sites.google.com/site/musicmachinelearning11>).
- 3rd International Workshop on Machine Learning and Music, in conjunction with ACM Multimedia, ACM Multimedia 2010, Florence, Italy (www.dtic.upf.edu/~rramirez/MML10)
- 2nd International Workshop on Machine Learning and Music 2009, in conjunction with European Conference in Machine Learning, ECML PKDD 2009, Bled, Slovenia (www.dtic.upf.edu/~rramirez/MML09)
- 1st International Workshop on Machine Learning and Music 2008, in conjunction with International Conference on Machine learning, ICML 2008, Helsinki, Finland (www.dtic.upf.edu/~rramirez/MML08)
- International Workshop on Artificial Intelligence and Music 2007, in conjunction with International Joint Conference on Artificial Intelligence, IJCAI2007, Hyderabad, India (www.dtic.upf.edu/~rramirez/MusAI)

Guest Editor / Program Committee

- **Guest Editor**, Journal of New Music Research, Special Issue on Music & Machine Learning, 2017 (currently in process).
- **Guest Editor**, Journal of Music and Mathematics, Special Issue on Music & Machine Learning, 2016.
- **Guest Editor**, Journal of New Music Research, Special Issue on Music & Machine Learning, 2014
- **Guest Editor**, Journal of New Music Research, Special Issue on Music & Machine Learning, 40(2), 2011
- **Guest Editor**, Intelligent Data Analysis Journal, Special Issue on Intelligent Music Systems, 2010
- **Scientific Program Co-Chair** of Sound and Music Computing Conference 2010, Barcelona
- **Scientific Program Committee** of several conferences including ISMIR, SMC, ICMC, MusART, NIME, FLAIRS.

Invited Seminars / Courses

- Artificial Intelligence and Music in Pedagogy and Well-being, Nagoya Institute of Technology, Japan (2025)
- Technology-Enhanced Music Learning, National University of Singapore, Singapore (2019)
- AI for Music Learning, Nagoya Institute of Technology, Japan (2019)
- Neurocognitive Music Therapy, HAN University, Nijmegen, Netherlands (2019)
- Music, Artificial Intelligence and Neuroscience for Health and and Well-Being, Anglia Ruskin University, Cambridge (2019)
- Technology Enhanced Music Learning, Nanyang Technological University, Singapore (2016)
- Emotional effect of music therapy in terminal cancer patients, Federal University of Santa Caterina, Brazil (2016).
- EEG-based detection of music evoked emotions in cancer patients, Association of music and medicine, Beijing, China (2016)
- EEG-based quantitative evaluation of emotions in faces in autistic children, The Royal Hospital for Neuro-Disability, London, UK.
- *Machine learning, music and neurofeedback*, Department of psychology, University of Leiden, Holland (2016).
- *Music, machine learning, well being and health, Schools of computing, National University of Singapore (2015).*
- *Brain-Computer Music Interfaces*, Department of Music, University of Jyväskylä, Finland (2013).
- *Machine Learning, Music Expression and Brain-Computer Interfaces*, Computer Science Department, Vrije Universiteit Brussel, Brussels, Belgium, (2013).
- *Artificial Intelligence and Data Mining in Retail Innovation*, ESADE Business School, Barcelona, Spain, (2013)
- *Data Mining for Business*, ESADE Business School, Barcelona, Spain, (2013)
- *A Machine Learning Approach to Expressive Performance Patterns*, Languages and Computer Systems Department, Alicante University, Spain (2011).
- *Advanced Music Informatics*, Computer Science Department, City University London, London, UK, (2009).
- *Machine Learning and Music*, Faculty of Music Studies, University of Athens, Greece (2006).
- *An Artificial Intelligence Approach to Expressive Performance*, School of Music and Sonic Arts, Queen's University Belfast, UK (2005).
- de Janeiro, Brazil, (1996).

Teaching Experience

Graduate Courses

- Machine Learning (Master & PhD course), Universitat Pompeu Fabra, 2011-2023
- Artificial Intelligence, Creativity and the Arts, Universitat Pompeu Fabra, 2021-2023
- Functional Programming, Universitat Pompeu Fabra, 2021-2023
- Artificial Intelligence in Retail Innovation, (MBA program), ESADE Business School 2012-2014
- Model Thinking, (MBA Program), ESADE Business School, 2012-2013.
- Machine learning and music (PhD course), 2005-2006
- Theory and Algorithms, Universitat Pompeu Fabra (PhD course), 2004-2005
- Machine Learning and Music (Master course), Universitat Pompeu Fabra, 2007-2009
- Logic Programming (Master AI course), University of Bristol, 1996.

Undergraduate Courses

- Machine Learning for Biomedical Applications, Universitat Pompeu Fabra, 2019-2023
- Machine Learning and Data Mining, Universitat Pompeu Fabra, 2013-2020
- Pattern Recognition, Universitat Pompeu Fabra, 2016-2017
- Computational Logic, Universitat Pompeu Fabra, 2010-2011

- Operating Systems, Universitat Pompeu Fabra, 2010-2013
- Machine learning and Arts, City University London, 2009-2010
- Logic and Formal Languages, Universitat Pompeu Fabra, 2004-2010
- Compilers, Universitat Pompeu Fabra, 2002-2020
- Programming III, Universitat Pompeu Fabra, 2004-2005
- Logic and Formal Systems, National University of Singapore, 2000-2002
- Constraint and Logic Programming, National University of Singapore, 1999-2001
- Operating Systems, National University of Singapore, 1999-2002
- Discrete Mathematics, National University of Singapore, 1997-1999.
- Algorithms and Data Structures, National University of Singapore, 1997-1998.

Student Supervision

- 8 PhD thesis supervised and 3 under current supervision.
- Over 30 Master thesis supervised
- Over 60 Bachelor thesis supervised

Selected Refereed Publications

SCI Journals

- Blanco ÁD, Costa-Faidella J, Carrillo AP, Dalmazzo D, Ramirez-Melendez R, SanMiguel I. Error monitoring and correction in violin performance: An EEG study. *Neuroimage*. 2025 Sep;318:121365. doi: 10.1016/j.neuroimage.2025.121365. Epub 2025 Jul 9. PMID: 40645464.
- Torres-Hernandez, A., Ramirez-Melendez, R., & Brambila-Paz, F. (2025). Proposal for the Application of Fractional Operators in Polynomial Regression Models to Enhance the Determination Coefficient R2 on Unseen Data. *Fractal and Fractional*, 9(6), 393. <https://doi.org/10.3390/fractalfract9060393>
- Ramirez-Melendez, R.; Reija, X. The Creative Drummer: An EEG-Based Pilot Study on the Correlates of Emotions and Creative Drum Playing. *Brain Sci*. 2023, 13, 88. <https://doi.org/10.3390/brainsci13010088>
- Torres-Hernandez, A., & Brambila-Paz, F., Ramirez-Melendez, R (2025). Proposal for Use of the Fractional Derivative of Radial Functions in Interpolation Problems, *Fractal Fract* 8(1), DOI: 10.3390/fractalfract8010016
- Ramirez-Melendez, R.; Matamoros, E.; Hernandez, D.; Mirabel, J.; Sanchez, E.; Escude, N. Music-Enhanced Emotion Identification of Facial Emotions in Autistic Spectrum Disorder Children: A Pilot EEG Study. *Brain Sci*. 2022, 12, 704. <https://doi.org/10.3390/brainsci12060704>
- Agres KR, Schaefer RS, Volk A, Van Hooren S, Holzapfel A, Dalla Bella S, Muller M, de Witte M, Herremans D, Ramirez Melendez R, Neerincx M, Ruiz S, Meredith D, Dimitriadis T, Magee WL. Music, Computing, and Health: A Roadmap for the Current and Future Roles of Music Technology for Health Care and Well-Being. *Music and Science* 2021; 4(0).
- Dalmazzo D, Waddell G, Ramirez R (2021). Applying deep learning techniques to estimate patterns of musical gesture, *Frontiers in Psychology* 2021; (11): 575971, ISSN: 1664-1078, 10.3389/fpsyg.2020.575971
- Blanco AD, Tassani S, Ramirez R (2021). Effects of Visual and Auditory Feedback in Violin and Singing Voice Pitch Matching Tasks, *Frontiers in Psychology* 2021; 12: 1-15, ISSN: 1664-1078 10.3389/fpsyg.2021.684693
- Sayis, B., Ramirez, R. & Pares, N (2021). Mixed reality or LEGO game play? Fostering social interaction in children with Autism, *Virtual Reality*, 1-17, ISSN: 1359-4338
- Blanco AD, Tassani S, Ramirez R (2021). Real-Time Sound and Motion Feedback for Violin Bow Technique Learning: A Controlled, Randomized Trial, *Frontiers in Psychology* 12:648479. ISSN: 1664-1078, 10.3389/fpsyg.2021.648479
- Agres, K., Schaefer, R., Volk, A., Van Hooren, S., Holzapfel, A., Dalla Bella, Müller, M., De Witte, M., Herremans, D., Ramirez-Melendez, R., Neerincx, M., Ruiz, S., Meredith, D., Dimitriadis, T., & Magee, W. (2021). Music, computing, and health: A roadmap for the current and future roles of music technology for healthcare and well-being. *Music & Science*.
- Héroux I, Giraldo S, Ramirez R, Dubé F, Creech A (2020). Measuring the impacts of extra-musical elements in guitar music playing: a pilot study, *Frontiers in Psychology* 2020; 11(1964): 1-1, ISSN: 1664-1078, 10.3389/fpsyg.2020.01964
- Papatzikis E, Zeba F, Särkämö T, Ramirez R, Grau-Sánchez J, Tervaniemi M, Loewy J (2020). Mitigating the impact of the novel coronavirus pandemic on neuroscience and music research

protocols in clinical populations, *Frontiers in Psychology* (11): 216, ISSN: 1664-1078, 10.3389/fpsyg.2020.02160

- Dalmazzo D and Ramírez R (2019) Bowing Gestures Classification in Violin Performance: A Machine Learning Approach. *Front. Psychol.* 10:344. doi: 10.3389/fpsyg.2019.00344
- Giraldo S, Waddell G, Nou I, Ortega A, Mayor O, Perez A, Williamon A and Ramírez R (2019) Automatic Assessment of Tone Quality in Violin Music Performance. *Front. Psychol.* 10:334. doi: 10.3389/fpsyg.2019.00334
- Ortega FJM, Giraldo SI, Perez A and Ramírez R (2019) Phrase-Level Modeling of Expression in Violin Performances. *Front. Psychol.* 10:776. doi: 10.3389/fpsyg.2019.00776
- Ramírez R, Planas J, Escude N, Mercade J and Farriols C (2018) EEG-Based Analysis of the Emotional Effect of Music Therapy on Palliative Care Cancer Patients. *Front. Psychol.* 9:254. doi: 10.3389/fpsyg.2018.00254
- M. Beardsley D. Hernández-Leo R. Ramirez-Melendez (2018), Seeking reproducibility: Assessing a multimodal study of the testing effect, *Journal of Computer Assisted Learning*, DOI: 10.1111/jcal.12265
- José M. Iñesta, Darrell Conklin & Rafael Ramírez (2016) Machine learning and music generation, *Journal of Mathematics and Music*, 10:2, 87-91, DOI: 10.1080/17459737.2016.1216369
- Katerina Kosta, Rafael Ramírez, Oscar F. Bandtlow & Elaine Chew (2016) Mapping between dynamic markings and performed loudness: a machine learning approach, *Journal of Mathematics and Music*, 10:2, 149-172, DOI: 10.1080/17459737.2016.1193237
- Vamvakousis, Z., and Ramirez, R. (2016). The EyeHarp: A Gaze-Controlled Digital Musical Instrument for people with severe motor disabilities. *Front. Psychol.* 7. doi:10.3389/fpsyg.2016.00906.
- Giraldo, S., Ramirez, R. (2016). A machine learning approach to ornamentation modeling and synthesis in jazz guitar. *Journal of Mathematics and Music*, doi: 10.1080/17459737.2016.1207814.
- Giraldo, S., Ramirez, R. (2016). A Machine Learning Approach to Discover Rules for Expressive Performance Actions in Jazz Guitar Music. *Front. Psychol.*
- Ramirez R, Palencia-Lefler M, Giraldo S and Vamvakousis Z (2015) Musical neurofeedback for treating depression in elderly people. *Front. Neurosci.* 9:354. doi: 10.3389/fnins.2015.00354
- Marchini, M., Ramirez, R., Papiotis, P., Maestre, E. (2014). A Machine Learning Approach to String Quartet Expressive Performance Modeling. *Journal of New Music Research*.
- Conklin, D.; Ramirez, R.; Iñesta, J.M. (2014). New Directions in Music and Machine Learning, *Journal of New Music Research*, 251-254, 43.
- Ramirez, R., Maestre, E., Serra, X. (2012). A Rule-Based Evolutionary Approach to Music Performance Modeling, *IEEE Transactions on Evolutionary Computation*, 16(1): 96-107.
- Marinescu. M., Ramirez, R. (2012). Learning singer-specific performance rules, *International Journal of Modeling and Optimization*, 2(2): 97-102
- Ramirez, R., Maestre, E., Serra, X. (2011). Automatic Performer Identification in Celtic Violin Audio Recordings, *Journal of New Music Research*, 40(2): 165-174.
- Ramirez, R., Maestre, E., Serra, X. (2010). Automatic performer identification in commercial monophonic Jazz performances, *Pattern Recognition Letters*, 31: 1514-1523.
- Ramirez, R., Perez, A., Kersten, S., Rizo, D., Román, P., Iñesta, J.M. (2010). Modeling Violin Performances Using Inductive Logic Programming, *Intelligent Data Analysis*, 14(5): 573-586.
- Maestre, E., Ramirez, R. (2010). An approach to predicting bowing control parameter contours in violin performance, *Intelligent Data Analysis*, 14(5): 587-599.
- Perez-Sancho, C., Kersten, S., Ramirez, R., Iñesta, J. M., Ponce de León, P. (2010). Genre classification of music by tonal harmony, *Intelligent Data Analysis*, 14(5): 533-546.
- Maestre, E., Ramirez, R., Serra, X. (2009). Expressive Concatenative Synthesis by (re)Using Samples from Real Performance Recordings, *Computer Music Journal*, Vol. 33(4): 23-42
- Ramirez, R., Hazan, A., Serra, X. (2008). A Genetic Rule-based Expressive Performance Model for Jazz Saxophone, *Computer Music Journal*, 32(1): 38-50.
- Ramirez, R., Maestre, E., Pertusa, A., Gomez, E., Serra, X. (2007). Performance-based Interpreter Identification in Saxophone Audio Recordings. *IEEE Transactions on Integrated Circuits and Systems for Video Technology*, 17(3): 356-364.
- Ramirez, R., Hazan, A. (2006). A Tool for Generating and Explaining Expressive Music Performances of Monophonic Jazz Melodies, *International Journal on Artificial Intelligence Tools*, 15(4): 673-691
- Ramirez, R., Hazan, A., Gomez, E., Maestre, E., Serra, X. (2005). Discovering Expressive Transformation Rules from Saxophone Jazz Performances, *Journal of New Music Research*, 34(4): 319-330
- Ramirez, R., Vamvakousis, Z. (2012). Detecting Emotion from EEG Signals using the Emotiv EPOC Device, *Lecture Notes in Computer Science 7670*, Springer.

Book Chapters

- Ramirez, A. and Ramirez, R. (2014 in press). A Mathematical Analysis of Brick Vaults and Domes, In: *Architecture and Mathematics from Antiquity to the Future*, Basel: Birkhauser, Springer.
- Ramirez, R. (2013). Modelling, Analysing, Identifying and Synthesizing Expressive Popular Music Performances, In: *Guide to Computing for Expressive Music Performance*, pp 123-144, Springer, ISBN: 978-1-4471-4122-8
- Ramirez, R., Hazan, A., Maestre, E., Serra, X. (2008). Evolutionary Expressive Music Performance Modeling, In: *The Art of Evolution*, pp. 123-144, Springer, ISBN 978-3-540-72876-4.
- Ramirez, R. (2007). Identifying Famous Interpreters from Their Playing Style, In: *Intelligent Music Information Systems: Tools and Methodologies*, pp. 221.238, IGI Global, ISBN 1-59904-663-6.
- Ramirez, R., Hazan, A., Maestre, E., Serra, X. (2006). A Data Mining Approach to Expressive Music Performance Modeling, In: *Multimedia Data Mining*, pp. 379-399, Springer, ISBN 1-84628-436-8.

Selected (not updated) International Conference Peer-reviewed Papers

1. R. Ramírez, C. Canepa, S. Ghisio, K. Kolykhalova, M. Mancini, E. Volta, G. Volpe, S. I. Giraldo, O. Mayor, A. Pérez, G. Waddell, and A. Williamon (2018). Enhancing Music Learning with Smart Technologies. *Proc. 5th Int'l Conf. on Movement and Computing (MOCO'18)*, 2018, article 49, 4 pages.
2. Matteo Lionello, Rafael Ramirez (2018). Detection and Regression of Violin Vibrato from Scores and Mobile Devices Rendering for Didactic Purposes. *Sound and Music Computing Conference*. July 2018, Limassol, Cyprus.
3. Furkan Yiesler, Rafael Ramirez (2018). A Machine Learning Approach to Classification of Phonation Modes in Singing. *Sound and Music Computing Conference*. July 2018, Limassol, Cyprus.
4. Giraldo, S., Ramirez, R., Waddell, G., and Williamon, A. (2018c). Computational Modelling of Timbre Dimensions for Automatic Violin Tone Quality Assessment. In *proc Timbre is a Many-Splendored Thing Conference*. 4-7 July, McGill University, (Montreal, Canada), 57-58.
5. Giraldo, S., Ortega, A., Perez, A., Ramirez, R., Waddell, G., & Williamon, A. (2018, May). Automatic assessment of violin performance using dynamic time warping classification. In *2018 26th Signal Processing and Communications Applications Conference (SIU)*. IEEE.
6. Giraldo, S., Ramirez, R., Waddell, G., and Williamon, A. (2017). A computational approach for measuring performance quality in violin tones. In *International Symposium in Performance Science (ISPS 2017)* (Reikiavik, Iceland), 2231–2240
7. Blanco, A. , Ramirez, R. (2017). Neural correlates of bow learning technique. In *Proceedings of the 10th International Workshop on Machine Learning and Music*, 1-6.
8. Blanco, A., & Ramirez, R. (2017, November). Evaluation of audio-based feedback technologies for bow learning technique in violin beginners. In *Proceedings of the 1st ACM SIGCHI International Workshop on Multimodal Interaction for Education*(pp. 41-43). ACM.
9. Ortega, F. J. M., Giraldo, S. I., Ramirez, R. (2017). Bowing modeling for violin students assistance. In *Proceedings of the 1st International Workshop on Multimodal Interaction for Education*, 60-62. doi: 10.1145/3139513.3139525
10. Ortega, F. J. M., Giraldo, S. I., Ramirez, R. (2017). Phrase-level modeling of expression in violin performances. In *Proceedings of the 10th International Workshop on Machine Learning and Music*, 49-54.
11. Ortega, F. J. M., Giraldo, S. I., Perez-Carrillo, A., Ramirez, R. (2019?). Phrase-Level modeling of expression in violin performances. *Front. Psychol., special issue on Performance Science*. (under review).
12. Dalmazzo, David, and Rafael Ramirez. "Air violin: a machine learning approach to fingering gesture recognition." *Proceedings of the 1st ACM SIGCHI International Workshop on Multimodal Interaction for Education*. ACM, 2017. doi.org/10.1145/3139513.3139526
13. Dalmazzo, David, Simone Tassani, and Rafael Ramírez. "A Machine Learning Approach to Violin Bow Technique Classification: a Comparison Between IMU and MOCAP systems." *Proceedings of the 5th international Workshop on Sensor-based Activity Recognition and Interaction*. ACM, 2018. doi.org/10.1145/3266157.3266216
14. Giraldo, S., Ramirez, R., Waddell, G., and Williamon, A. (2017). A realtime feedback learning tool to visualize sound quality in violin performances. In *10th International Workshop on Machine Learning and Music (MML 2017)* (Barcelona, Spain).

15. Kitahara, T., Giraldo, S. I., & Ramírez, R. (2017). Jamsketch: a drawing-based real-time evolutionary improvisation support system. In Proceedings of the 2017 NIME New Interfaces for Musical Expression Conference, Copenhagen, Denmark (pp. 505-506).
16. Squier, M., Giraldo, S., Ramírez, R. (2017) Computational modelling of expressive music performance in hexaphonic guitar . In proc. of the 10th International Workshop in Machine Learning and Music (MML 0217), Barcelona, Spain.
17. Angulo, I., Giraldo, S., and Ramírez, R. (2016). Hexaphonic guitar transcription and vizualisation. Proceedings of the International Conference on Technologies for Music Notation and Representation (TENOR 2016), Cambridge, UK
18. Bantula, H., Giraldo, S., and Ramírez, R. (2016). Jazz expressive performance modelling. In Proceedings of the 17th International Society for Music Information Retrieval Conference (ISMIR 2016) held in New York, USA, Ago 12.
19. Giraldo, S. and Ramirez, R. (2015). Computational modelling of ornamentation in jazz guitar music. In International Symposium in Performance Science. Ryukoku University (Kyoto, Japan: Ryukoku University), 150–151
20. Giraldo, S. and Ramirez, R. (2015). Computational modeling and synthesis of timing, dynamics and ornamentation in jazz guitar music. In 11th International Symposium on Computer Music Interdisciplinary Research CMMR 2015, Plymouth, UK. 806–814
21. Giraldo, S. and Ramirez, R. (2015). Computational generation and synthesis of jazz guitar ornaments using machine learning modeling. In Proceedings of the 11th International Conference on Machine Learning and Music(MML 2014) held in Vancouver, Canada, August, 2015. 10–12
22. Giraldo, S. and Ramirez, R. (2015). Performance to score sequence matching for automatic ornament detection in jazz music. In International Conference of New Music Concepts ICMNC March, 2015, Treviso, Italy
23. Giraldo, S. and Ramirez, R. (2014). Optimizing melodic extraction algorithm for jazz guitar recordings using genetic algorithms. In Joint Conference ICMC-SMC 2014, Athens, Greece. 25–27
24. Bantula, H., Giraldo, S., and Ramirez, R. (2014). A rule-based system to transcribe guitar melodies. In Proceedings of the 11th International Conference on Machine Learning and Music (MML 2014) held in Barcelona, Spain, Nov 28. 6–7
25. Giraldo, S. and Ramirez, R. (2015). Performance to score sequence matching for automatic ornament detection in jazz music. In International Conference of New Music Concepts ICMNC March, 2015, Treviso, Italy. 8
26. Giraldo, S. and Ramirez, R. (2015a). Computational generation and synthesis of jazz guitar ornaments using machine learning modeling. In Proceedings of the 11th International Conference on Machine Learning and Music(MML 2014) held in Vancouver, Canada, August, 2015. 10–12
27. Giraldo, S. and Ramirez, R. (2015b). Computational modeling and synthesis of timing, dynamics and ornamentation in jazz guitar music. In 11th International Symposium on Computer Music Interdisciplinary Research CMMR 2015, Plymouth, UK. 806–814
28. Giraldo, S. and Ramirez, R. (2015c). Computational modelling of ornamentation in jazz guitar music. In International Symposium in Performance Science. Ryukoku University (Kyoto, Japan: Ryukoku University), 150–151
- Bantula, H., Giraldo, S., and Ramirez, R. (2016). Jazz expressive performance modelling. In Proceedings of the 17th International Society for Music Information Retrieval Conference (ISMIR 2016) held in New York, USA.
29. Ramirez, R., Giraldo, S., Vamvakousis, Z. (2013), EEG-Based Emotion Detection in Music Listening, In Proceedings of the Fifth International Brain-Computer Interface Meeting 2013. Graz University of Technology Publishing House
30. Vamvakousis, Z., and Ramirez, R. (2014). P300 harmonies: A Brain-Computer Musical Interface. Proc. - 40th Int. Comput. Music Conf. ICMC 2014 11th Sound Music Comput. Conf. SMC 2014 - Music Technol. Meets Philos. From Digit. Echos to Virtual Ethos, 725–729.
31. Vamvakousis, Zacharias, and Rafael Ramirez. (2015) EEG Signal classification in a Brain-Computer Music Interface. 8th International Workshop on Machine Learning and Music (MML15).
32. Vamvakousis, Z., and Ramirez, R. (2015). Is an auditory P300-based Brain-Computer Musical Interface feasible? 1st International BCMI Workshop, 1–8.
33. Vamvakousis, Z., and Ramirez, R. (2015). A Percussive Musical Interface for a Quadriplegic Patient. International Symposium on Performance Science 2015 (Kyoto, Japan: Ryukoku University), 60–61.
34. Ramirez, R. and Vamvakousis, Z. (2013). Towards a Low Cost Mu-Rhythm Based BCI. In Proceedings of the Fifth International Brain-Computer Interface Meeting 2013. Graz University of Technology Publishing House, California, USA
35. Giraldo, S., Ramirez, R. (2013), Brain-Activity-Driven Real-Time Music Emotive Control, In Proceedings of the Fifth International Brain-Computer Interface Meeting 2013. Graz University of Technology Publishing House, California, USA
36. Ramirez, R., Giraldo, S., Vamvakousis, Z. (2013) EEG-Based Emotion Detection In Live-Music Listening, In proc. of International Conference on Music & Emotion (ICME3). Jyväskylä, Finland.

37. Ramirez, R. and Vamvakousis, Z. (2013). EEG-Based Emotion Recognition To Enhance Gaze-Controlled Music Performance. In proc. of International Conference on Music & Emotion (ICME3). Jyväskylä, Finland.
38. Giraldo, S., Ramirez, R., (2013) Brain-Activity-Driven Real-Time Music Emotive Control. In proc. of International Conference on Music & Emotion (ICME3). Jyväskylä, Finland.
39. Ramirez, R. and Vamvakousis, Z. (2012). Detecting Emotion from EEG Signals Using the Emotive Epoc Device. In Zanzotto, F., Tsumoto, S., Taatgen, N., and Yao, Y., editors, *Brain Informatics*, pages 175–184, Springer, Berlin Heidelberg
40. Gómez, I., Ramirez, R. (2011). A Data Sonification Approach to Cognitive State Identification, International Conference on Auditory Display, Budapest, Hungary.
41. Vamvakousis, Z., Ramirez, R. (2011). The EyeHarp: A Gaze-based Musical Instrument, Sound and Music Computing Conference, Padova, Italy.
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Languages

Fluent in Spanish, English, French, Catalan and Italian.