

Curriculum Vitae
Carlos Guedes, Doctor of Philosophy

EDUCATION

2005	Ph.D. in Composition Dissertation: <i>Mapping Movement to Musical Rhythm: A Study in Interactive Dance</i> Advisors: George Fisher (chair), Robert Rowe, Ann Axtmann	New York University
1996	M.A. in Composition	New York University
1993	B.A. in Composition	ESMAE-IPP, Portugal
2002-2003	Post-graduate course in Sonology	Institute of Sonology in the Hague, The Netherlands

GRANTS AND AWARDS

Research and Artistic Grants:

2019	Research Enhancement Fund research grant from New York University Abu Dhabi for “Computationally-engaged approaches to rhythm and musical heritage: Establishing cross-cultural relationships using data-driven approaches.” PI: Carlos Guedes. Co-Investigators: Andrew Eisenberg, Beth Russell, Yi Fang, Brian McFee (NYUNY), Robert Rowe (NYUNY). \$249,634.00. Research Enhancement Fund pathway grant for “The Swahili Musical Imagination: Intercultural Style and Aesthetics in the Compositions of Ally Salim Basalama.” (PI: Andrew Eisenberg. Co-Investigators: Clarissa Viercke (U of Bayreuth), Carlos Guedes, Robert Rowe (NYUNY). \$21,883.60.	
2018	Research Center Planning grant from New York University Abu Dhabi for “The planning of the Center for Interdisciplinary Research of Music and Sound Cultures (MaSC).” (co-PIs: Andrew Eisenberg, Beth Russell, Godfried Toussaint, Juan Bello, and Robert Rowe). \$28.600.	
2017	Research Enhancement Fund grant from New York University in Abu Dhabi for project “Computationally engaged approaches to rhythm and musical heritage: Generation, analysis, and performance practice” (co-PIs: Carlos Guedes, Elizabeth Russell, Juan Bello, Robert Rowe, and Godfried Toussaint). \$232.882	
2016	Global Seed Fund grant from NYU for project “Creation and analysis of a digital repository of Middle Eastern Music” (co-PIs: Carlos Guedes, Robert Rowe, Juan Bello, and Godfried Toussaint). \$130.000	
2014	Research Enhancement Fund grant from New York University in Abu Dhabi for project “Cross-disciplinary and multi-cultural approaches to musical rhythm” (co-PIs: Carlos Guedes, Juan Bello, Robert Rowe, and Godfried Toussaint). \$350.000	
2013	Grant from Calouste Gulbenkian Foundation in innovative projects on the educational domain for project “Experiências musicais contemporâneas — Seminário didático,” a project proposed by undergraduate students in the composition program at ESMAE –IPP coordinated by Carlos Guedes. Team: Bruno Ferreira, Daniela Castro, Filipe Fernandes, José Tiago Baptista, Leonor Abrunheiro, Manuel Brásio, and Carlos Guedes. €16.626	
2013	Grant from ON2 (O Novo Norte. Funding scheme for regional development through the European Union) for project MAT — Media Arts and Technology. Creation of a new research line at INESC TEC. Wrote package on “Interaction with Music Information.” Project global funding: €660.000.	

- 2012 Project “m4m– Music for Media” at the University of Porto. Project created an international network of excellence in music and new media between U. of Porto and selected institutions worldwide. Funding: €120.000 from QREN/ON2
- 2011 Grant from Foundation for Science and Technology (FCT — main scientific funding agency in Portugal) for project “ShakeIt: Grooving mechanisms in music and its applications (co-PIs: Fabien Gouyon, Carlos Guedes). €110.000.
- 2009 Grant from Foundation for Science and Technology (FCT — main scientific funding agency in Portugal) for project “Kinetic controller driven adaptive and dynamic music composition systems.” (PI: Carlos Guedes). €150.000
- 2008 Grant from the Direcção Geral das Artes (Portuguese Ministry of Culture) on the amount of € 16,000 to develop *Skynth* an interactive installation for public spaces populated by skateboarders
- 2006 Grant from Foundation for Science and Technology (FCT — main scientific funding agency in Portugal) for project “Optical recognition of handwritten music notation.” (Co-PIs: Jaime Cardoso, Carlos Guedes). Funding: €50,000

Educational Grants:

- 2011 Fulbright Visiting Scholar Grant at the University of Texas at Austin in Fall 2011
- 2002-2003 Grant from NUFFIC, Netherlands Organization for International Cooperation in Higher Education (Huygens Programme), to do research in interactive dance at the Institute of Sonology in the Hague, The Netherlands
- 1997-2001 Grant for doctoral studies from Fundação para a Ciência e Tecnologia (grant BD 13934/97)
- 1996-1999 Grant for doctoral studies from the Luso-American Foundation in Portugal
- 1995 Grant by the Portuguese Ministry of culture for Masters’ Degree

Awards:

- 2018 Sound and Music Computing Conference (SMC 2018). Best paper award for Guedes, C., Trochidis, K., & Anantapadmanabhan, A. (2018) Modeling Carnatic Rhythm Generation: A Data-Driven approach based on Rhythmic Analysis.
- 01/31/2012 Winner of Prémio ZON 2011 (1st prize, €30,000) in category Multimedia Applications with iOS application GimmeDaBlues. Team: Carlos Guedes, Rui Dias, George Sioros, Gilberto Bernardes and Telmo Marques
- 04/27/2005 “Doctoral Award in Music Composition.” Award from the Department of Music and Performing Arts Professions at the Steinhardt School, NYU
- 04/17/1998 NYU presidential award “Service Award for Leadership”
- 1995 Award for academic excellence from the Department of Music and Performing Arts Professions, Steinhardt School, NYU

ACADEMIC POSITIONS

- 2018- Associate Professor of Music, Tenure, New York University Abu Dhabi, United Arab Emirates
- 2013-2018 Associate Arts Professor of Music, New York University Abu Dhabi, United Arab Emirates
- 2008-2013 Professor Coordenador in Composition (Associate Professor), Tenure, School of Music and Performing Arts from the Polytechnic Institute of Porto (ESMAE-IPP), Portugal
- 2012-2013 Adjunct Associate Professor in the Informatics Engineering Department at the Faculty of Engineering of the University of Porto (FEUP)

- 2009-2012 Visiting Associate Professor in the Electrical Engineering Department at the Faculty of Engineering of the University of Porto (FEUP)
- 2008-2009 Adjunct Associate Professor in the Masters program in Multimedia, School of Engineering, U of Porto, Portugal
- 2008-2009 Adjunct Associate Professor in Electronic Music at the School of Applied Arts from the Polytechnic Institute of Castelo Branco, ESART-IPCB, Portugal
- 2005-2008 Adjunct Assistant Professor in Electronic Music at the School of Applied Arts from the Polytechnic Institute of Castelo Branco, ESART-IPCB, Portugal
- 2002-2008 Professor Adjunto (Assistant Professor), ESMAE-IPP, Portugal
- 1996-2000 Adjunct Professor in Music Theory and Composition, New York University

PUBLICATIONS

Journals (peer-reviewed):

- In press: Lopes, F. & **Guedes, C.** Composing music with space. *Perspectives of New Music*
- 2019 Guedes, C. (2019). Real-time composition: Its applications and educational potential. *Journal of power electronics* 9(2), 33-40
- Ganguli, K. & Guedes, C. (in press). An approach to adding knowledge constraints to a data-driven generative model for Carnatic rhythm sequence. *Trends in electrical engineering*. 9(3), 11-17
- 2017 Sioros, G., Davies, M., & **Guedes, C.** (2017). A Generative Model for the Characterization of Musical Rhythms. *Journal of new music research* 47(2)
- 2016 Bernardes, G., Cocharro, D., Caetano, M., **Guedes, C.** & Davies, M. (2016). A Multi-Level Tonal Interval Space for Modelling Pitch Relatedness and Musical Dissonance. *Journal of New Music Research* 45(4). url: <http://www.tandfonline.com/doi/full/10.1080/09298215.2016.1182192>
- Bernardes, G., Cocharro, D., **Guedes, C.** & Davies, M. (2016). Harmony generation driven by a perceptually motivated tonal interval space. *ACM Computers in Entertainment* 14(2).
- 2015 Bello, J. P., Rowe, **Guedes, C.**, R. and G. Toussaint. (2015). Five Perspectives on Musical Rhythm. Introduction *Journal of New Music Research* upcoming special issue “Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm” (Bello, J. P., Guedes, C. Rowe, R. and G. Toussaint Eds.)
- 2012 Rebelo, A., Fujinaga, I., Paszkiewicz, F., Marçal, A., **Guedes, C.** and J. Cardoso. (2012). Optical Music Recognition - State-of-the-Art and Open Issues. *International Journal of Multimedia Information Retrieval*, 1/1, 1-18.
- 2011 Naveda, L. Gouyon, F., **Guedes, C.** and M. Leman. (2011). Microtiming Patterns and Interactions with Musical Properties in Samba Music. *Journal of New Music Research*, 40/3, 225-238.
- 2010 **Guedes, C.** and P. Rebelo. (2010). Reflections on music programming for conferences: The case of SMC 2009. *Computer Music Journal*, 34/3, 11-19.
- 2009 Cardoso, J., Capela, A., Rebelo, A., **Guedes, C.** J. F. Pinto da Costa. (2009). Staff detection with stable paths. In *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31/6, 1134 – 1139.

BOOK CHAPTERS:

- 2018 **Guedes, C.** (2018). “Composing and improvising. In real time.” in *Music Technology with Swing. Lecture Notes in Computer Science* (11265), pp. 445-453. New York: Springer.
- 2014 Sioros, G. & **Guedes, C.** (2014). “Syncopation as Transformation.” in *Music, Sound and*

- 2013 Bernardes, G., **Guedes, C.** & Pennycook, B. (2013). "EarGram: An Application for Interactive Exploration of Concatenative Sound Synthesis in Pure Data." in *From Sounds to Music and Emotions. Lecture Notes in Computer Science* (7900), pp.110-129. New York: Springer.

EDITED VOLUMES:

- 2015 Bello, J. P., Rowe, R, Guedes, C. & Toussaint, G. (Eds).(2015). *Cross-disciplinary and Multi-cultural Perspectives on Musical Rhythm*, special issue of the *Journal for New Music Research* 44/1

Conference Proceedings (peer- reviewed):

- 2019 Trochidis, K., Russell, B., Eisenberg, E., Ganguli, K., Gomez, O. Plachouras, C., **Guedes, C.** & Danielson, V. (2019). Mapping the Sounds of the Swahili coast and the Arab Mashriq: Music research at the intersection of computational analysis and cultural heritage preservation. *Proceedings of the Digital Libraries for Musicology Workshop (DLfM)*, November 9, 2019, The Hague, Netherlands
- Ganguli, K. Anantapadmanabhan, A, & **Guedes, C.** (2019) Fractal Modeling of Carnatic Rhythm Sequence: Case-study on a Generative Model. *Proceedings of the International Society of Music Information Retrieval conference (ISMIR 2019)*, Delft, The Netherlands.
- 2018 **Guedes, C.**, Trochidis, K., & Anantapadmanabhan A. (2018a). Challenges in computational modelling and generation of Carnatic percussion music. Challenges in Carnatic Music generation. *Proceedings of the 5th International Conference of Analytical Approaches to World Music*, Thessaloniki, Greece.
- Guedes, C.**, Trochidis, K., & Anantapadmanabhan, A. (2018b) Modeling Carnatic Rhythm Generation: A Data-Driven approach based on Rhythmic Analysis. *Proceedings of the 15th Sound & Music Computing Conference*, Limassol, Cyprus, 2018
- 2017 **Guedes, C.** (2017). Real-Time Composition, why it still matters?: A look at recent developments and potentially new and interesting applications. Submitted to *Proceedings of the 2017 International Computer Music Conference*
- Guedes, C.**, Trochidis, K., & Anantapadmanabhan, A. (2017). CAMEL: Carnatic Percussion Music Generation Using N-Gram and Clustering Approaches. Abstract of presentation at the 16th Rhythm Production and Perception Workshop
- Bernardes, G., Davies, M. & **Guedes, C.** (2017). Automatic musical key estimation with adaptive mode bias. *Proceedings of the 42nd IEEE International Conference on Acoustics, Speech and Signal Processing*.
- 2016 Trochidis, K., **Guedes, C.**, Holzapfel, A., Anantapadmanabham, A., Klaric, A. (2016). Analysis by synthesis of rhythm in South Indian art percussion performances by means of statistical analysis. *Proceedings of the Fourth Conference on Analytical Approaches to World Music 2016 (AAWM 2016)*.
- Trochidis, K., & **Guedes, C.** (2016). Rhythmic Analysis of Carnatic Style Percussive Music Using an Adaptive Time Domain Decomposition Method *Proceedings of the Fourth Conference on Analytical Approaches to World Music 2016 (AAWM 2016)*.
- Trochidis, K., **Guedes, C.**, Anantapadmanabhan, A. & Klaric, A. (2016). CAMEL: Carnatic Percussion Music Generation Using N-Gram Models. *Proceedings of the Sound and Music Computing 2016 (SMC 2016)*, Hamburg.
- 2015 Bernardes, G., Cocharro, D., **Guedes, C.** & Davies, M. (2105). Conchord: An Application for Generating Musical Harmony by Navigating in a Perceptually Motivated Tonal Interval Space. *Proceedings of the International Symposium of Computer Music Multidisciplinary Research 2015 (CMMR 2015)*

- 2014 Bernardes, G., Davies, M. E. P., **Guedes, C.** & Pennycook, B. (2014). Considering roughness to describe and generate vertical musical structure in content-based algorithmic-assisted audio composition. *Proceedings of the Joint International Computer Music and Sound and Music Computing Conference (ICMC 2014-SMC 2014)*, 318-324.
- Dias, R., **Guedes, C.** & Marques, T. (2014). A computer-mediated interface for Jazz piano comping. *Proceedings of the Joint International Computer Music and Sound and Music Computing Conference (ICMC 2014-SMC 2014)*.
- Sioros, G. & **Guedes, C.** (2014). Transforming musical rhythms: meter and syncopation. *Proceedings of the Simpósio de Informática (INFORUM 2014)*.
- 2013 Dias, R. & **Guedes, C.** (2013). A Contour-based Jazz Walking Bass Generator. *Proceedings of the Sound and Music Computing Conference (SMC 2013)*. Stockholm, Sweden
- Sioros, G., Miron, M., Cocharro, D., **Guedes, C.** & Gouyon, F. (2013). Syncopalooza: Manipulating the Syncopation in Rhythmic Performances. *Proceedings of the Conference on Computer Music Modeling and Retrieval (CMMR 2013)*, Marseille, France
- 2012 Sioros, G., Holzapfel, A. & **Guedes, C.** (2012). On measuring syncopation to drive an interactive music system. *Proceedings of the Conference of the International Society for Music Information Retrieval (ISMIR 2012)*. Porto, Portugal
- Bernardes, G., **Guedes, C.**, & Pennycook, B. (2012). EarGram: an Application for Interactive Exploration of Large Databases of Audio Snippets for Creative Purposes. *Proceedings of the Conference on Computer Music Modeling and Retrieval (CMMR 2012)*, London, England
- Dias, R., Marques, T., Sioros, G. & **Guedes, C.** (2012). GimmeDaBlues: An intelligent Jazz/Blues player and comping generator for iOS.” *Proceedings of the Conference on Computer Music Modeling and Retrieval (CMMR 2012)*, London, England
- 2011 Sioros G. & **Guedes, C.** (2011). Complexity-driven recombination of MIDI loops. *Proceedings of the Conference of the International Society for Music Information Retrieval (ISMIR 2011)*. Miami, USA
- Sioros G. & **Guedes, C.** (2011). Generation and control of automatic rhythmic performances in Max/MSP. *Simpósio de Informática (INFORUM 2011)*. Coimbra, Portugal
- Dias, R., Marques, T., Sioros, G. & **Guedes, C.** (2011). Gimme 'Da Blues: A Jazz/Blues Player and Automatic Comping Generator For iOS Multitouch Devices.” *Simpósio de Informática (INFORUM 2011)*, Coimbra, Portugal.
- Sioros G. & **Guedes, C.** (2011). A formal approach for high-level automatic rhythm generation. *Proceedings of the BRIDGES 2011 - Mathematics, Music, Art, Architecture, Culture Conference*. Coimbra, Portugal.
- Sioros G. & **Guedes, C.** (2011). Automatic Rhythmic Performance in Max/MSP: the kin.rhythmicator. *Proceedings of the 11th International Conference on New Interfaces for Musical Expression (NIME 2011)*. Oslo, Norway.
- Rebelo, A., Paszkiewicz, F., Guedes, C., Marcal, A. & Cardoso, J. (2011). A Method for Music Symbols Extraction based on Musical Rules. *Proceedings of the BRIDGES 2011 - Mathematics, Music, Art, Architecture, Culture Conference*. Coimbra, Portugal
- 2010 Bernardes, G., **Guedes, C.** & Pennycook, B. (2010). Style emulation of drum patterns by means of evolutionary methods and statistical analysis. *Proceedings of the Sound and Music Computing Conference (SMC 2010)*. Barcelona, Spain
- Baltazar, A., **Guedes, C.**, Pennycook, B. & Gouyon, F. (2010). A real-time human body skeletonization algorithm for max/msp/Jitter. *Proceedings of International Computer Music Conference (ICMC 2010)*, Stony Brook, NY
- 2009 Naveda, L., Gouyon, F., **Guedes, C.** & Leman, M. (2009). Multidimensional microtiming in Samba music. *Brazilian Symposium in Computer Music, 2009*

- 2008 Cardoso, J., Capela, A., Rebelo, A. and **C. Guedes**. A Connected Path Approach for Staff Detection on a Music Score. *Proceedings from the 2008 IEEE International Conference on Image Processing (ICIP 2008)*, San Diego, USA
- Capela, A. Cardoso, J., Rebelo, A. and **C. Guedes**. “Integrated Recognition System for Music Scores.” *Proceedings of the International Computer Music Conference 2008 (ICMC 2008)*, Belfast, Ireland
- Penha, R., Rodrigues, P., Gouyon, F., Martins, L., **Guedes, C.** and A. Barbosa. “Studio Report: Digitópia at Casa da Música.” *Proceedings of the International Computer Music Conference 2008 (ICMC 2008)*, Belfast, Ireland
- 2007 **Guedes, C.** (2007). Translating Dance Movement into Musical Rhythm in Real Time: New Possibilities for Computer-Mediated Collaboration in Interactive Dance Performance. *Proceedings of The International Computer Music Conference (ICMC 2007)* Copenhagen, Denmark
- Guedes, C.** (2007) Establishing a Musical Channel of Communication between Dancers and Musicians in Computer-Mediated Collaborations in Dance Performance. *Proceedings of the 2007 Conference on New Interfaces for Musical Expression (NIME07)*, New York, NY, USA pp. 417-418
- Guedes, C.** & Dias, R. (2007). The Program in Electronic Music Composition and Musical Production at the School of the Arts of the Polytechnic Institute of Castelo Branco. *Proceedings from the Sound and Music Computing 2007(SMC 2007)*. pp. 378-381 and *Proceedings of The International Computer Music Conference (ICMC 2007)* Copenhagen, Denmark.
- Guedes, C.** & Woolford, K. (2007). Controlling Aural and Visual Particle Systems through Human Movement. *Proceedings from the Sound and Music Computing 2007(SMC 2007)*, Lefkada, Greece. pp. 200-203 and *Proceedings of The International Computer Music Conference (ICMC 2007)*, Copenhagen, Denmark
- Woolford, K. & **Guedes, C.** (2007). Particulate Matters: Generating Particle Flows from Human Movement. *Proceedings from the ACM Multimedia Conference 2007*, Augsburg, Germany
- Rebelo, A., Capela, A., Costa, J., **Guedes, C.**, Carrapatoso, E., & Cardoso, J. (2007). A Shortest Path Approach for Staff Line Detection. *Proceedings of the Third International Conference on Automated Production of Cross Media Content for Multi-channel Distribution (AXMEDIS 2007)*, Barcelona, Spain.
- 2006 **Guedes, C.** (2006). Extracting Musically-Relevant Rhythmic Information from Dance Movement by Applying Pitch-Tracking Techniques to a Video Signal. *Sound and Music Computing Conference 2006 Proceedings*, pp. 25-33
- 2005 **Guedes, C.** (2005). The m-objects: A Small Library for Musical Rhythm Generation and Musical Tempo Control from Dance Movement in Real Time.” *Proceedings from the International Computer Music Conference*, International Computer Music Association, 2005, pp. 794-797
- 2003 **Guedes, C.** (2003). Controlling Musical Tempo from Dance Movement in Real-Time: A Possible Approach.” *Proceedings from the International Computer Music Conference*, International Computer Music Association, 2003, pp. 453-457

Scores

- 2016 Guedes, C. (2013). *La brume, et la plume du poète qui inquiète*. For string orchestra
- 2013 Guedes C. (2013) *Mimo*. For alto flute — edition won honorable mention from the US National Flute Association (<https://www.nfaonline.org/PDFS/Annual-Convention/Competitions/2014NPM.pdf>)
- Guedes C. (2013). *...neve de verão...* for vibraphone

SELECTED LECTURES AND PRESENTATIONS**Refereed:**

- 1/03/2015 “Movement Sonification.” NYUAD Annual Research Conference, Abu Dhabi
- 22/02/2014 “Generative Music Systems and New, Interesting, and Revolutionary Possibilities for Music Education and Enculturation.” NYUAD Annual Research Conference, Abu Dhabi
- 12/01/2012 “GimmeDaBlues: Interactive Jazz/Blues Player and Generator for iOS Devices.” Symposium on Apps. Joint presentation with Rui Dias. SIGGRAPH Asia ’12, Singapore.
- 13/08/2008 “Echo Locations.” Joint talk with Kirk Woolford at the panel *Dancing with Computers and Technology*, at SIGGRAPH ’08, Los Angeles, California
- 08/04/2000 “Hearing Dance: Three Musical Analyses of Selected Choreographies.” Presentation at the Music Theory Society of New York State Conference, NYU.

Invited:

- 11/04/2019 Participation in panel *Enriching the Content of Knowledge in Tolerance and Human Fraternity*. Expo Center, Sharjah, UAE, November 4, 2019. Event by the Ministry of Tolerance under the patronage of HE Sheikh Nahayan bin Mubarak Al Nahyan. Participation in panel discussion about artistic content, discussing the importance of music, and the research currently undertaken by the Music and Sound Cultures (MaSC) research group as a means to promote tolerance and cross-cultural understanding.
- 10/24/2019 Panel discussion *Academia, Science, Art, and Technology* at Index — Braga Media Arts, with Lars Montelius, Christa Sommerer, Daniel Brandão, Sue Gollifer. Moderator: Rui Penha. Braga, Portugal
- 9/25/2019 Talk at NYU Abu Dhabi Institute at NYUAD. *Getting NYUAD in the groove: Five years of rhythm-related research*. With Robert Rowe, Akshay Anantapadmanabhan, Andrew Eisenberg, and Kaustuv Ganguli.
- 7/07/2019 Keynote address at the 24th Frontiers of Research in Speech and Music conference. Kanpur, India
- 4/29/2019 Talk at NYU Abu Dhabi Institute in New York. *Getting Abu Dhabi in the groove: Five years of rhythm-related research*. With Robert Rowe, Akshay Anantapadmanabhan, Mark Cartwright, and Kaustuv Ganguli.
- 27/09/2017 Keynote address at the 13th International Symposium on Computer Music Multidisciplinary Research (CMMR 2017)
- 22/09/2016 Panel discussion on noise pollution with Paul D. Miller (aka DJ Spooky), Charles Shamon (NYC Department of Environmental Protection), Nicolas Misdariis (IRCAM), and Tae Hong Park (NYU Steinhardt)
- 27/05/2016 “On real-time composition.” Lecture in composition at the Beijing Central Conservatory. Beijing, China.
- 12/10/ 2014 “On real-time composition.” Talk at the Workshop *Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm and Improvisation*, New York University Abu Dhabi
- 01/04/2013 “Real-time Composition and a Possible Future for Interactive Music Systems.” Talk at the University of California, Santa Barbara
- 27/03/2013 “Real-time Composition and a Possible Future for Interactive Music Systems.” Talk at the Butler School of Music. University of Texas at Austin
- 19/03/2013 “On Automatic Rhythm Generation in Real Time.” Talk at the Workshop *Musical Rhythm: Cross-Disciplinary and Multi-Cultural Perspectives*, New York University Abu Dhabi
- 07/07/2011 “Sound, motion capture and archeology: Silchester, the recordings.” Talk at the final workshop of Motion in Place Platform Project. University of Sussex, UK.

- 07/05/2010 “Research in Sound and Music Computing at INESC Porto: Preliminary results and challenges.” Talk at Ciência 2010, Fundação para a Ciência e Tecnologia, Portugal.
- 26/06/2010 “Movement and Musical Control.” Talk at the Motion Capture Methodologies Workshop. University of Sussex, UK.
- 27/10/2008 “Installations in Public Spaces.” Talk at the Digital Media Masterclass at the Radio, Television and Film School from the University of Texas at Austin
- 24/06/2008 “Translating Dance Movement into Musical Rhythm in Real Time: New Possibilities for Computer-Mediated Collaboration in Interactive Dance Performance.” Talk at the UT Austin | Portugal Summer Institute at Universidade Nova de Lisboa, Lisbon Portugal
- 07/10/2006 “From Numbers to Discourse: (More or Less) Automatic Music Generation in Max/MSP.” Conference in Music and Mathematics. Porto, Portugal.
- 19/04/2002 “Interactive Music Systems and Collaborative Efforts in Dance: How Do They Relate?” Conference Media Massage (Artez Digital Atellier). Zwolle, The Netherlands.

RESEARCH

Current Projects:

- 2019 “Computationally-engaged approaches to rhythm and musical heritage: Establishing cross-cultural relationships using data-driven approaches.” (PI: Carlos Guedes. Co-Investigators: Andrew Eisenberg, Beth Russell, Yi Fang, Brian McFee (NYUNY), Robert Rowe (NYUNY). \$249.634.00 Research Enhancement Fund research grant.
- “The Swahili Musical Imagination: Intercultural Style and Aesthetics in the Compositions of Ally Salim Basalama.” (PI: Andrew Eisenberg. Co-Investigators: Clarissa Viercke (U of Bayreuth), Carlos Guedes, Robert Rowe (NYUNY). \$21.883.60. Research Enhancement Fund pathway grant

Past Research Projects:

- 2018 “The planning of the Center for Interdisciplinary Research of Music and Sound Cultures (MaSC).” (co-PIs: Andrew Eisenberg, Beth Russell, Godfried Toussaint, Juan Bello, and Robert Rowe). \$28.600. NYU Abu Dhabi Research Institute
- 2017- 2019 “Computationally engaged approaches to rhythm and musical heritage: Generation, analysis, and performance practice.” (Co-PIs: Elizabeth Russell, Godfried Toussaint, Juan Bello, Robert Rowe,). Funding \$232.882. Research Enhancement Fund, New York University in Abu Dhabi
- 2016-2019 “Creation and analysis of a digital repository of Middle Eastern Music” (co-PIs: Robert Rowe, Juan Bello, and Godfried Toussaint). Funding: \$130.000. NYU Global Seed Grant
- 2014-2017 “Cross-disciplinary and multi-cultural perspectives on musical rhythm” (Co-PIs: Juan Bello, Robert Rowe, Godfried Toussaint). Funding \$350.000. Research Enhancement Fund, New York University in Abu Dhabi
- 2011-2013 Co-PI in project “ShakeIt: Grooving mechanisms in music and its applications (Principal Investigator: Fabien Gouyon). Funding: €110.000. Reference: PTDC/EAT-MMU/112255/2009
- 2009-2011 Principal Investigator in project “Kinetic controller driven adaptive and dynamic music composition systems” in collaboration with Bruce Pennycook (UT Austin), Fabien Gouyon (INESC-Porto) and Tomás Henriques (Universidade Nova de Lisboa). Funding: €150,000, Foundation for Science and Technology (FCT). Reference: UTAustin/CD/0052/2008
- 2010-2011 Participation in project “Motion in Place Platform: Capturing the relationship between human movement and site.” (Principal Investigator: Kirk Woolford, University of Sussex). <http://www.motioninplace.org/>

- 2006- 2010 Co-PI of the project “Optical recognition of handwritten music notation.” (Principal Investigator: Jaime Cardoso). Funding: €50,000, FCT. Reference: PTDC/EIA/71225/2006. URL: http://www.fct.mctes.pt/projectos/pub/2006/Painel_Result/vglobal_projecto.asp?idProjecto=71225&idElemConcurso=895

Dissemination Projects:

- 2012-2013 Responsible for project “m4m– Music for Media” at the University of Porto. Project that aims at creating an international network of excellence in music and new media between the U. of Porto and selected institutions worldwide. Funding: €120.000 from QREN/ON2

MUSICAL WORK/PROFESSIONAL ACTIVITY IN COMPOSITION

Commissions:

- 2020 *Neve*. New choreography by Né Barros for Balletteatro do Porto.
- 2019 *Lições de voo*. Play by Isabel Barros for Teatro de Marionetas do Porto. Commission from Teatro de Marionetas do Porto
Fragile ecosystems for bass drum and fixed-media electronics. Commission from percussionist João Tiago Dias as part of funding obtained from Criatório (Porto City Hall) to promote new music creation
New piece for Teatro de Ferro directed by Igor Gandra. Commission from Teatro de Ferro
- 2017 *On the resolution of regional tensions* for big band and live electronics. Commission from Orquestra de Jazz de Matosinhos premiered at the 13th International Symposium on Computer Music Multidisciplinary Research (CMMR 2017)
Phobia robotica. Commission from Sonoscopia of a piece for robotic orchestra for the Serralves Contemporary Art Museum Festival “Serralves em Festa”
Music for *Como um carrossel...*, children’s puppet theater. Commission from Teatro de Marionetas do Porto
- 2015 *1985*. for soprano sax, snare drum, electric guitar, electronic music and an indeterminate number of smartphones. Commission from INESC TEC (Porto, Portugal)
Cannon a 4 con uccelli obbligati. Sound Art installation Commission from Sonoscopia
- 2014 *Olo; um solo sem s* (30’). Play by Igor Gandra for Teatro de Ferro. Commission from Teatro de Ferro
- 2013 *We, the citizens — fp13.cg.em.cg*. Sound Art installation with artist collective. Commission from Future Places Festival
- 2012 *Ai o caraaa...* (8’). Four-channel electroacoustic music. Commission from Manobras no Porto
Concerto X (80’). Collaborative composition with Filipe Lopes, Gustavo Costa, José Alberto Gomes, Pedro Rebelo, Rui Dias, and Rui Penha, for Large Ensemble, Ensemble of Improvisers, Live Electronic Music and Robotic Gamelan. Commission from Guimarães 2012, European Capital of Culture
Music for *O Acidente* (50’), play directed by Igor Gandra for Teatro de Ferro. Commission from Teatro de Ferro
- 2011 *O pastorinho e a flauta* (6’). Interactive electroacoustic music. Commission from Miso Music Portugal.
Music for *Pan-Órama* (50’), ballet choreographed by Isabel Barros for the Balletteatro dance company. Electronic music. Commission from Balletteatro.
Music for *M1.1* (20’), Solo performance by Carla Veloso. Commission from Teatro de Ferro.

- The strings, the springs, among other things...* (15') for string quartet and big band. Commission from Câmara Municipal de Matosinhos.
- 2008 *Sweet Drama*, for big band (14'). Orquestra de Jazz de Matosinhos
- 2007 *With drooping wings* (50'). Ballet choreographed by Né Barros. Commissioned by Balletatro/Teatro Nacional de S. João. Electronic manipulations on Purcell's *Dido and Aeneas*
- 2005 *Zeca d'ação* (6'), for steel drums and Electronics. Commissioned by *Drumming*, percussion ensemble
- Passacaglia Intrinsecamente Mutante* (6'), for Flute, Clarinet, Violin, Viola, Violoncello and Double Bass. Commissioned by INESC-Porto for the end of the 20th anniversary celebrations
- Sound and Music for *Will.O.w!sp*. Interactive installation conceived by Kirk Woolford. Commissioned by the Amsterdam Fonds voor den Kunst.
- 2004 Music for *Vanitas* (15'), a feature film by Paulo Rocha. Instrumentation: Soprano, Violin, Viola, Violoncello, Double Bass, Baritone Saxophone, percussion and electronics. Commissioned by Suma Filmes
- Music for *A piscina* (3'), a short film by João Carlos and Iana Viana. Instrumentation: Viola, Violoncello, Double bass and Bass trombone. Commissioned by Suma Filmes
- Music for *Olívia* (35'), a dance solo for children choreographed and danced by Isabel Barros. Interactive Electronic music. Commissioned by Balletatro/Teatro Rivoli
- Music for *O mundo de Alex* (45'), a play by the Puppet Theater of Porto, directed by João Paulo Seara Cardoso. Electronic music. Commissioned by the Puppet Theater of Porto
- 2003 *Côr: Um projecto audiovisual interactivo*. Interactive installation in collaboration with Kirk Woolford, Ula li and INESC-Porto. Commissioned by Casa da Música in Porto
- 2002 Music for *Demolição: A história que ides ver* (10', Opera in two acts, libretto by Regina Guimarães), collaboration with Fernando Lapa and Carlos Azevedo. Electronic Music. Commissioned by Casa da Música
- Music for *Pó* (50'), ballet choreographed by Isabel Barros. Electronic music with Baritone and Bass Saxophones. Commissioned by Balletatro/Teatro Nacional de S. João
- 2001 Music and sound design for *The Chrysalids*, play by John Wyndman directed by Alistair Martin-Smith. Commissioned by the Educational Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU
- Music for *Quarto Escuro* (40'), ballet choreographed by Isabel Barros. Electronic music with Violin. Commissioned by Balletatro
- 2000 Music and sound design for *Imaginary Friends*, play by Laurie Brooks, directed by Alistair Martin-Smith. Commissioned by the Educational Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU
- 1999 Music and sound design for *The Pinballs* (in collaboration with Gaute Solaas), play by Betsy Byers, directed by Alistair Martin-Smith. Commissioned by the Educational Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU
- 1998 Music for *Acidente cor-de-laranja dez vezes* (35'), ballet choreographed by Isabel Barros. Electronic music. Commissioned by Balletatro/Festival Mergulho no Futuro (Expo '98 in Lisbon, Portugal)
- Music for *Peregrinação* (4'). Electronic music. Music for the parade car of The Puppet Theater of Porto in parade *Peregrinação* at Expo '98 in Lisbon, Portugal. Commissioned by the Puppet Theater of Porto.
- Music and sound design for *Young Eugene* (in collaboration with Moto Osada), play by Lowell Swortzell, directed by Nancy Swortzell. Commissioned by the Educational Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU for the opening of the Provincetown Playhouse in New York

- 1997 Music for *Screen: 24 fracturas expostas* (35'), ballet choreographed by Isabel Barros. Commissioned by Balletatro
 Music and sound design for *Afternoon of the Elves*, play by Y York directed by Alistair Martin-Smith. Commissioned by the Educational Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU
- 1996 Music and sound design for *Selkie*, play by Laurie Brooks directed by Nancy Swartzell. Commissioned by the Ed. Theater Program of the Department of Music and Performing Arts, Steinhardt School, NYU

DISCOGRAPHY:

- Guedes, C. (2017). *Phobia robotica*. Piece for dysfunctional robotic orchestra in *Disposifónicos: Acumuladores de objetos sonantes*. (2019) [LP]. Porto: Sonoscopia
- Guedes, C. (2015). Canon a 4 con uccelli obbligati in *Disposifónicos: Acumuladores de objetos sonantes*. (2019) [LP]. Porto: Sonoscopia
- Guedes, C. (2019). *Unsolvable problems* [CD]. [music for big band and for big bang and string quartet]. Porto: Improbable Records
- SSS+Q. (2017). *SSS+Q+Carlos Guedes* [LP]. Porto: Wasserbassin.
- Guedes, C. (2015). Happy Miso 25! In *Cadavres Exquis: Portuguese Composers of the 21st century* [CD]. Lisbon: Miso records

Selected high impact performances of musical work since 2009:

- 11/29/2019 Sonoscopia, Porto, Portugal. *Fragile ecosystems* for concert bass drum and fixed media electronics. Bass drum: João Dias.
- 6/12/2019 Casa da Música, Porto, Portugal. *Sweet drama* for big band (2016). Orquestra Jazz de Matosinhos. Dir: Pedro Guedes. (Audience: 1000)
- 2/23/2019 ElectroFest, NYUAD Arts Center. *Untitled #1*. Live performance of *Chess* (Carlos Guedes & Nikolaj Hess) with Cristina Ioan (flutes) and Laetitia Morais (live video)
- 10/20/2018 Festival Internacional de Marionetas do Porto, Porto, Portugal. *Jinn*. Choreography & dance: Kiori Kawai; Video choreography and dance: Nella Turkki; Flutes and voice: Cristina Ioan; Animation: Kirk Woolford; Cinematography: Saguenail; Lighting Design: Simon Fraulo (sold out)
- 10/10-11/2018 NYUAD Arts Center, Abu Dhabi UAE. *Jinn*. Choreography & dance: Kiori Kawai; Video choreography and dance: Nella Turkki; Flutes and voice: Cristina Ioan; Animation: Kirk Woolford; Cinematography: Saguenail; Lighting Design: Simon Fraulo (sold out)
- 4/01/2018 NYU Abu Dhabi, Blue Hall. *Music for visuals, visuals for music*. Monographic concert at NYUAD's Manifold festival, with Emil Sein (saxophones), Cristina Ioan (flute), Mahsin Basalama (Qanun), and Laetitia Morais (visuals)
- 6/3-4/2017 Serralves Contemporary Art Museum, Porto, Portugal. *Phobia robotica*. Custom robotic instrument orchestra (Audience: >200000)
- 5/11/2017 Casa da Música, Porto, Portugal. *The strings, the springs, among other things*. Orquestra de Jazz de Matosinhos and quarteto de cordas de Matosinhos. Dir: Pedro Guedes (Audience: 1000)
- 12/16/2016 Performance at Sharja's Flag Island Music Festival with Emil Sein (saxophones).
- 09/25/2016 New York University, Noisegate festival. *1985.2* for soprano sax and fixed media electronic music.
- 05/28/2016 National Performing Arts Center, Beijing China. Beijing Modern Music Festival 2016. *La brume, et la plume du poète qui inquiète*. China National Symphony Orchestra. Dir: Michaël Cousteau (Audience: 1800)

- 3/14, 15 and
4/2, 3/ 2016 NYU Abu Dhabi. *Jinn*. A choreomusical work conceived and performed by Carlos Guedes, Nella Turkki, Cristina Ioan, Kirk Woolford and Saguenail.
- 03/03/2016 Berklee College of Music. “Concert for 100 mobiles.” *1985* for soprano sax, snare drum, electric guitar, electronics and an indeterminate number of smartphones.
- 10/26/ 2015 Casa da Música.(Porto. Portugal).*1985* for soprano sax, snare drum, electric guitar, electronic music and an indeterminate number of smartphones. (Audience: 1000)
- 10/11/2014 Teatro Nacional de S. João/Mosteiro de S. Bento da Vitória. Festival Internacional de Marionetas do Porto. *Olo: um solo sem s*. Teatro de Ferro, directed by Igor Gandra
- 10/1/2012 Centro Cultural Vila Flor. Guimarães 2012, European Capital of Culture. *Concerto X*, a collective composition for Large Ensemble, Robotic gamelan, three improvisers, and live electronic music. Dir. Jean-Marc Burfin. Piano: Pedro Rebelo; Violin: Carlos Zíngaro; Percussion: Nuno Aroso.(Audience: 800)
- 09/15/2012 Casa da Música, Porto, Portugal. Festival Internacional de Marionetas do Porto. *O Acidente*. Teatro de Ferro, directed by Igor Gandra.
- 08/02/2012 Fábrica Asa, Guimarães, Portugal (Guimarães 2012, European Capital of Culture). *O Acidente*. Teatro de Ferro, directed by Igor Gandra, texts by Regina Guimarães. (Audience: 400)
- 05/12/2011 15th Matosinhos Jazz Festival, Matosinhos, Portugal. *The strings, the springs, among other things...* for string quartet and big band. (Audience: 800)
- 07/24/2010 7th Sound and Music Computing Conference, Barcelona Spain. *Happy Miso 25!* 8 –channel electronic music piece
- 14/03/2009 South by Southwest Interactive, Austin TX. *Echo Locations*. Interactive installation conceived by Kirk Woolford and Carlos Guedes — Special commission from Frog Design and UT Austin (> 2500 viewers)

Public Premieres:

Concert Music:

- 11/29/2019 Sonoscopia, Porto, Portugal. *Fragile ecosystems* for concert bass drum and fixed media electronics. Bass drum: João Dias.
- 2/23/2019 ElectroFest, NYUAD Arts Center. *Untitled #1*. Live performance of *Chess* (Carlos Guedes & Nikolaj Hess) with Cristina Ioan (flutes) and Laetitia Morais (live video)
- 4/1/2018 NYU Abu Dhabi, Blue Hall. *Three insomnias* for flute, saxophones, qanun, live and fixed-media electronics, and visuals. Manifold festival, with Emil Sein (saxophones), Cristina Ioan (flute), Mahsin Basalama (Qanun), and Laetitia Morais (visuals).
- 10/18/2017 International Computer Music Conference 2017, Shanghai, China. *becoming space* for trumpet,percussion and live electronics. Susana Santos Silva (trumpet), Jorge Queijo (percussion).
- 9/27/2017 International Symposium on Computer Music Multidisciplinary Research, Matosinhos, Portugal. *On the resolution of regional tensions* for big band and live electronics.
- 09/25/2016 New York University, Noisegate festival. *1985.2* for soprano sax and fixed media electronic music.
- 26/10/ 2015 Casa da Música.(Porto. Portugal).*1985* for soprano sax, snare drum, electric guitar, electronic music and an indeterminate number of smartphones. Soprano sax: Gilberto Bernardes; snare drum: André Dias, electric guitar: Óscar Rodrigues.
- 31/05/2014 Museu de arte contemporânea de Serralves, Serralves em Festa. *Nodos e ventres #2*. Collective improvisational piece with Filipe Lopes, Henrique Fernandes, Jorge Queijo e Loreto Trancoso
- 18/03/2013 ESMAE-IPP, Porto, Festival ESMAE, *La brume, et la plume du poète qui inquiète*, for string orchestra. Camerata NovNorte. Dir: Radu Ungureanu.
- 09/03/2013 Recitais “Cliclos de Música,” *mimo*, for alto flute
- 05/10/2012 Manobras no Porto. *Ai o caraaa...* Four-channel electroacoustic music

- 01/10/2012 Centro Cultural Vila Flor. Guimarães 2012, European Capital of Culture. *Concerto X*. Collaborative composition by Carlos Guedes, Filipe Lopes, Gustavo Costa, José Alberto Gomes, Pedro Rebelo, Rui Dias and Rui Penha, for large ensemble, ensemble of improvisers, live electronic music and robotic gamelan
- 02/08/2012 Fábrica Asa, Guimarães, Portugal (Guimarães 2012, European Capital of Culture). *O Acidente*. Teatro de Ferro, directed by Igor Gandra, texts by Regina Guimarães
- 12/05/2011 15th Matosinhos Jazz Festival, Matosinhos, Portugal. *The strings, the springs, among other things...* for string quartet and big band.
- 10/27/2010 Festival Tell, Porto. *Soliloquy* for tenor sax and fixed media electronic music.
- 07/24/2010 7th Sound and Music Computing Conference, Barcelona Spain. *Happy Miso 25!* 8 –channel electronic music piece
- 07/13/2008 Centro Cultural de Belém, Lisbon. *Sweet Drama for Big Band*, Orquestra de Jazz de Matosinhos
- 25/04/2007 Casa da Música, Porto. *Zeca d'aço*. Drumming, Percussion Ensemble
- 04/11/2006 Festival *50 Years of Computer Music*, Cologne, Germany. *Jazz from Heaven*, for mechanic piano, mechanic vibraphone, and mechanic sousaphone
- 16/12/2005 Auditório da FEUP, Porto, Portugal. *Passacaglia Intrinsecamente Mutante* for flute, clarinet, violin, viola, violoncello and double bass.
- 2003 Auditório do Departamento de Comunicação e Arte da Universidade de Aveiro. Festival Internacional de Música de Aveiro (FIMA).! (1994, rev. 2002). Percussion quartet (12 toms, 4 snare drums, 4 bass drums, several metal instruments).
- 27/02/2002 Casa da Música, Porto, Portugal. *Demolição: a história que ides ver*. Opera in two acts, libretto by Regina Guimarães, in collaboration with Fernando Lapa and Carlos Azevedo.
- 13/12/1997 Intercommunication Center Gallery, Tóquio, Japão. USA/Japan Intercollege Computer Music Festival. *Etudes for Tape*. Electronic music.
- 19/01/1996 ESMAE-IPP. *Movements: para gestos imaginados* (1993). Electronic music.
- 27/02/1995 NYU Education Theater. *Post-Scriptum* (1992), for flute, clarinet and trumpet.
- 21/11/1994 NYU University Theater. *Modus* (1992), for flute, clarinet and piano.
- 12/07/1994 Teatro Rivoli, Porto. *Mão segunda: Suite*. Sound installation of poems by Regina Guimarães, in collaboration with Fernando Lapa, Saguenail and Regina Guimarães

Music for dance:

- 10/10/2018 NYUAD Arts Center, Abu Dhabi UAE. *Jinn*. [extended, definitive version]. Choreography & dance: Kiori Kawai; Video choreography and dance: Nella Turkki; Flutes and voice: Cristina Ioan; Animation: Kirk Woolford; Cinematography: Saguenail; Lighting Design: Simon Fraulo.
- 03/14/2016 Innovation Studio NYUAD, Abu Dhabi. *Jinn*. Choreography & dance: Nella Turkki, Flutes: Cristina Ioan, Motion Capture and Video Compositing: Kirk Woolford, Video: Saguenail
- 11/23/2011 Cine-Teatro Constantino Nery, Matosinhos, Portugal. *Pan Órama*. Balletteatro dance company, choreography by Isabel Barros.
- 11/15/2007 Balletteatro auditório), Porto, Portugal. *10'* (work-in-progress). Dance and Choreography: Isabel Barros. Interactive electronic music.
- 02/02/2007 Teatro Nacional de S. João, Porto, Portugal. *With drooping wings*. Balletteatro dance company, choreography by Né Barros.
- 09/26/2005 CinemaTeatro Lux, Pisa, Italy. Concert PLAY! from the *Computer Music Modeling and Retrieval 2005* Conference (Pisa, 26-28 September 2005). *Etude for Unstable Time*. Dance and choreography by Maxime Iannarelli.
- 05/06/2004 Teatro Rivoli, Porto. *Olivia*. Dance and Choreography: Isabel Barros.
- 07/04/2002 Teatro Nacional de S. João, Porto, Portugal. *Pó*. Balletteatro dance company, choreography by

- Isabel Barros. Saxophones: Henk van Twillert.
- 10/19/2001 Teatro Helena Sá e Costa. *Quarto Escuro*. Balleteatro dance company, choreography by Isabel Barros. Violin: Bruno Monteiro.
- 07/12/2000 Brasília, Brasil. *SHUSH*. Choreography by Anne Katrine Kallmoes.
- 07/18/1998 Teatro Municipal Maria Matos, Lisbon, Portugal. Festival Mergulho no Futuro (Expo '98). *Acidente de Automóvel Cór de Laranja Dez Vezes*. Balleteatro dance company, choreography by Isabel Barros.
- 05/28/1998 Joyce SoHo, New York, USA. *O corpo*. Choreography, video and interpretation by Fausto Matias.
- 06/13/1997 Balleteatro auditório, Porto, Portugal. *Screen: 24 fracturas expostas*. Balleteatro dance company, choreography by Isabel Barros. Texts by Regina Guimarães.
- 04/03/1997 Irish Arts Center, New York, USA. *Unnatural Selection*. Choreography and dance by Jenn Frank.
- 10/23/1996 Societata Filamornica Timisoara, Timisoara, Romania. *Cry D-version*. Choreography and dance by Deborah Macedo.
- 07/20/1996 Teatro Strada Facendo, Pisa, Italy. *Mystik*. NYU New Music and Dance Ensemble.
- 12/20/1995 The Kitchen, New York, USA. *Untitled*. Choreography, video and interpretation by Fausto Matias.
- 09/09/1995 Frederick Loewe Theater, NYU, New York, USA. *Cry of the Earth*. Choreography by John Sannuto.
- 08/10/1995 Sala Teatrului, Constanta, Romania. *Deconstruction CLXIV*. Choreography and dance by Deborah Macedo.

Installation work/sound art:

- 02/10-14/ 2015 Casa da Música, Porto, Portugal. *Cannon a 4 con uccelli obbligati*. Sound Art installation as part of project Phonambient
- 11/02/2013 Future Places Festival, Porto, Portugal. *We, the citizens — fp13.cg.em.gc*. Sound Art installation with artist collective.
- 03/14/2009 South by Southwest Interactive (SxSWi) *Echo Locations*. Interactive installation conceived by Kirk Woolford and Carlos Guedes
- 08/11/2008 SIGGRAPH '08, Los Angeles, California. *Echo Locations*. Interactive installation conceived by Kirk Woolford and Carlos Guedes
- 03/16/2005 Waag Society, Amsterdam, The Netherlands. *Will.0.w1sp*. Interactive installation conceived by Kirk Woolford and Carlos Guedes
- 06/17/2003 Casa da Música, Porto, Portugal. *Cór: um projecto audiovisual interactivo*. Installation in collaboration with Ula li, Kirk Woolford and INESC-Porto.
- Christmas 1999 Teatro Rivoli, Porto, Portugal. *Interactive installation* of a Christmas tree in collaboration with INESC-Porto

Film music:

- 2013 *La revoyure*. Short film by Saguenail
- 2010 *Preto e branca*. Short film by Saguenail
- 2006 *Man dia*. Short film by Saguenail.
- 2005 *Men deus*. Documentary by Regina Guimarães.
- 2004 *Mourir beaucoup: entre Nova Iorque e Cabul*. Short film by Saguenail.
A piscina. Short film by João Carlos e Iana Viana. Prize Asolo Per La Sezione film Sull'Arte — XXIV Asolo Art Film Festival
Vanitas. Feature film by Paulo Rocha. Prize Filmcritica from 22nd Torino Film Festival

- 2003 *Tunnel*. Short film by Amarante Abramovici.
 2002 *Circa me*. Short film by Amarante Abramovici.
 2001 *Antes de amanhã*. Short film by Saguenail. Great prize. Ovarvídeo film festival, 2002
 2000 *Pós*. Documentary by Saguenail.
 1999 *Sabores*. Documentary by Saguenail.
 1998 *Os meus mortos*. Short film by Saguenail. Special jury prize of Ovarvídeo film festival, 1998
 1995 *Ma's Sin*. Feature film by Saguenail. Music in collaboration with Fernando Lapa. Great prize of Figueira da Foz Film Festival, 1996

Music and sound design for theater:

- 3/29/2019 Teatro Constantino Nery, Matosinhos, Portugal. *Lições de voo*. Play by the Puppet Theater of Porto directed by Isabel Barros
 03/24/2017 Teatro Constantino Nery. *Como um carrossel....* Teatro de Marionetas do Porto. Puppet show directed by Isabel Barros
 05/22/2014 Festival Internacional de Marionetas e Formas Animadas, Lisbon, Portugal. *Olo — um solo sem s*. Teatro de Ferro, directed and performed by Igor Gandra
 08/02/2012 Fábrica Asa, Guimarães, Portugal (Guimarães 2012, European Capital of Culture). *O Acidente*. Teatro de Ferro, directed by Igor Gandra, texts by Regina Guimarães
 09/18/2011 Teatro de Ferro, Gaia, Portugal. *M1.1*. Solo performance by Carla Veloso.
 02/20/2004 Balle teatro Auditório, Porto, Portugal. *O mundo de Alex*. Teatro de Marionetas do Porto, directed by João Paulo Seara Cardoso.
 Nov. 2001 Provincetown Playhouse, New York, USA. *The Chrysalids*. Play by John Wyndman, directed by Alistair Martin-Smith.
 Nov. 2000 Provincetown Playhouse, New York, USA. *Imaginary Friends*. Play by Laurie Brooks directed by Alistair Martin-Smith.
 04/15/1999 Provincetown Playhouse, New York, USA. *The Pinballs*. Play by Betsy Byars directed by Alistair Martin-Smith.
 07/1998 *Máquina-Homem*. Parade car of Teatro de Marionetas do Porto for parade *Peregrinação* at Expo '98, Lisbon, Portugal.
 04/23/1998 Provincetown Playhouse, New York, EUA. *Young Eugene*. Play by Lowell Swortzell directed by Nancy Swortzell.
 04/11/1997 NYU Black Box Theater, New York, EUA. *Afternoon of the Elves*. Play by Y York directed by Alistair Martin-Smith.
 12/05/1996 NYU Black Box Theater, New York, EUA. *The Rimers of Eldritch*. Play by Lanford Wilson directed by Hellen White.
 11/01/1996 NYU Black Box Theater, New York, EUA. *The Orphan Train*. Play by Aurand Harris directed by Nancy Swortzell.
 03/22/1995 Frederick Loewe Theater, NYU, New York, EUA. *Selkie*. Play by Laurie Brooks directed by Nancy Swortzell.

ACADEMIC PROGRAM DEVELOPMENT AND MANAGEMENT

- 2013- 2016 Head of Music Program, New York University Abu Dhabi
 2012- 2015 Reformulation of the Music Program at New York University Abu Dhabi into more suitable liberal arts framework and preparation of the program reaccreditation by the UAE educational authority
 2012-2013 National co-director of the UT Austin | Portugal program in Digital Media (academic director)
 2012-2013 Program Director of the Masters in Composition and Music Theory at ESMAE-IPP, Porto, Portugal

- Feb.- Jul. 2012 Director of the Masters in Multimedia and Associate Director Doctoral Program in Digital Media from the UT Austin | Portugal program at the University of Porto
- 2008-2010 Program Director of the Masters in Composition and Music Theory at ESMAE-IPP, Porto, Portugal
- 2007-2011 Participation in the creation of the Doctoral program in Digital Media and the Masters program in Interactive Music and Sound Design from the UT Austin | Portugal Program. Creator of the Interactive Music and Sound Design track in the Master in Multimedia
- Participation in the creation of the curriculum of the Master of Composition and Music Theory at ESMAE-IPP
- 2005- 2007 Creator of the curriculum of the Bachelors in Electronic Music and Musical Production at ESART-IPCB (Castelo Branco) and coordinator of the program startup
- 2003-2006 Program Director of Composition. ESMAE-IPP. Put in place a major curriculum review in order to revive the composition program, turning it into a reference program in Portugal
- 1998 Participation on the review of the courses comprising the Music Theory/Aural Comprehension track at the Department of Music and Performing Arts at the Steinhardt School, New York University

COURSES TAUGHT

Graduate Courses:

- Summer 2017 Advanced Computer Music Composition. New York University, Steinhardt School, Department of Music and Performing Arts Professions
- Summer 2016 Electronic Music Performance in Max/MSP. New York University, Steinhardt School, Department of Music and Performing Arts Professions
- Summer 2015 Private Composition. New York University, Steinhardt School, Department of Music and Performing Arts Professions
- 2012-2013 Research Methodology, School of Engineering at the University of Porto, Portugal
- 2009-2013 Digital Interactive Systems, Generative Automatic Music, Sound Design for Digital Media, Advanced Sound Synthesis, School of Engineering at the University of Porto, Portugal
- 2008-2011 Seminar in Composition, Independent Study, ESMAE-IPP, Porto, Portugal
- History and Trends in Multimedia, Multimedia in Performing Arts, School of Engineering at the University of Porto, Portugal

Undergraduate Courses:

- 2019- Making Music
- 2018- Introduction to Musical Programming I and II
- 2017- Music, Electricity & Computation, Capstone Seminar
- 2014- Designing Sound for Scene and Screen
- 2013- Private Instruction in Composition, Collaborating in the Digital Domain, What is Music?, New York University Abu Dhabi
- 2005- 2013 Composition I, II, III and IV, History of Electronic Music I, II, History of Multimedia, and Psychology of Music, ESART-IPCB, Castelo Branco, Portugal
- 2002- 2013 Intro. to Electroacoustic Music, Musical Programming I and II, Sound Analysis and Synthesis, Formalized Music, Digital Interactive Systems, Electronic Music Project I and II, Composer's Forum I and II, Composer's Forum and recital I and II, Private Composition, Non-Tonal Music (set-theory module), Topics in Music Cognition and Psychoacoustics for Musicians, Compositional Technique after 1945 (Spectral music module), Composition Program at ESMAE-IPP
- Studio Lab, Jazz Program at ESMAE-IPP

- 2002-2006 Design II (Sound module), Design III (Sound module), and orientation of the sound design part of the student plays from the 3rd year, Theater Program at ESMAE-IPP
- 1996-2000 Basic Musicianship, Music Theory I, II, III e IV, Aural Comprehension I, II, III e IV, Private Music Composition, NYU, Steinhardt School

Non-degree:

- 2016 Young Filmmakers' Workshop. Workshop in filmmaking to Emirati high-school students. July 10-28
- 2011-2015 Siena Summer Music Program and Festival. Taught workshops in Composition.

ADVISING OF ACADEMIC WORK

(* indicates co-advising role)

DOCTORAL:**Dissertations completed by advisees:**

- Dias, Rui. (2018). "Interfacing Jazz: A Study in Computer-Mediated Jazz Music Creation and Performance."* Ph.D. dissertation in Digital Media at the University of Porto, Portugal (defended 10/09/2018)
- Costa, Gustavo. (2018). "Expressiveness and interaction in live electroacoustic improvisation."* Ph.D. dissertation in Digital Media at the University of Porto, Portugal (defended 10/09/2018)
- Carvalho, Rodrigo (2018). "sound+visuals+movement: Relationships between sound, visuals and movement in real-time audiovisual interactive systems."* Ph.D. dissertation in Digital Media at the University of Porto, Portugal (defended 07/09/2018)
- Sioros, Georgios. (2016). "Syncopation as transformation." Ph.D. dissertation in Digital Media at the University of Porto, Portugal (defended 25/02/2016)
- Lopes, Filipe. (2016). "Composição musical com o espaço." ["Composing music with space"]. Ph.D. dissertation in Digital Media at the University of Porto, Portugal (Defended 10/02/2016)
- Bernardes, Gilberto. (2014). "Composing music by selection: Content-based algorithmic-assisted audio composition." Ph.D. dissertation in Digital Media at the University of Porto, Portugal. (This dissertation won the 2nd prize on the Fraunhofer Portugal challenge in the category of scientific investigation with practical utility.) (Defended 02/07/2014)

MASTER:**Theses completed by advisees:**

- Silva, Igor C. (2013). "Interaction between compositional technique and programming in mixed media works." Master thesis in composition, ESMAE-IPP
- Hamido, Omar.(2013). "Exploring relationships between composition and drawing in the digital domain." Master thesis in composition, ESMAE-IPP
- Tapadas, João. (2013). "Utilizing elements from Glitch in traditional instrumental music writing." Master thesis in composition, ESMAE-IPP
- Ribeiro, Susana. (2013). "Interactive installation for Musical Improvisation at the Activity Room for the Impatient Service in Pediatrics of the Santo António Hospital." Master Thesis in Multimedia, University of Porto
- Sousa, Diana. (2013). "InteractMe PC|Artabilitation." Master Thesis in Multimedia, University of Porto*

- Salgado, Luís. (2013) “Definition of the Sonic Identity of TV Channel 360.” Master thesis in Multimedia, University of Porto*
- Palmeira, André. (2013). “NADI - Neural Activated Digital Instrument.” Master thesis in Multimedia, University of Porto*
- Menezes, João. (2012). “SonData- A Toolkit for Interactive Data Sonification.” Master thesis in Multimedia, University of Porto.
- Ângelo, Tiago. (2012). “Open Instruments: Framework for the Development and Performance of Digital Musical Instruments in MaxMSP.” Master thesis in Multimedia, University of Porto.
- Cocharro, Diogo. (2012). “Implementation of a Interactive Music System with kin.rhythmicator.” Master thesis in Multimedia, University of Porto.
- Magalhães, Eduardo. (2012) “Exploration of Immersive Sound Environments in a Multimedia Context: Applications in Mixing and Sound Design.” Master thesis in Multimedia, University of Porto.*
- Ribeiro, Süse. (2012) “An Approach to Spatialization of a Percussion Ensemble: The Drumming GP Case Study.” Master thesis in Multimedia, University of Porto.*
- Quay, Yago de. (2011). “Interactive Music 2.0: Stimulating Music Expression inside Nightclubs.” Master thesis in Multimedia, University of Porto
- Iglesias, Denisse.(2011). “Urban Environments and New Media: Redefining a Fitness Facility through a Technologically-Mediated Space.” Master thesis in Multimedia, University of Porto.*
- Marques, Luís. (2011).“MIDI Something – A Rhythmic-Pattern Generative Algorithm.” Master thesis in Multimedia, University of Porto*
- Costa, Gustavo (2010). “Human Intervention in Algorithmic Composition Processes: Strategies to Control Indeterminacy.” Master thesis in Composition, ESMAE-IPP
- Carvalho, Diana (2012). “The Use of Multi-touch Technologies as a Means to Fight Social Exclusion.” Master thesis in Multimedia, University of Porto.*
- Dias, Rui. (2009). “Modular Platform for Prototyping Interactive Music Systems.” Master thesis in Multimedia, University of Porto
- Gonçalves, Filipa (2009). “The Usability on a Digital Interactive Installation.” Master thesis in Multimedia, University of Porto.*
- Baltazar, André.(2009). “Extraction of rhythmic information from movement through video signal” Master thesis in Electrical Engineering, University of Porto.*
- Coelho, Ana. (2008) “Hybrid Articulations: A Study on the Processes of Transformation of Oral Tradition in Popular Culture in the Context of a Media Culture at the Global Scale” Master thesis in Fine Arts, University of Porto.
- Videira, Tiago. (2007). “The Cybernetic Artist: The Status of Artificial Intelligence in Avant-garde Music” Master Thesis in Philosophy Faculty of Social and Human Sciences from the Universidade Nova in Lisbon*
- Rangel, André. (2002). “Dem#0 — desterritorialização espacial moderada.” Master thesis in Digital Art, Universidade Católica Portuguesa, Núcleo Regional Norte.

UNDERGRADUATE CAPSTONE PROJECTS:

- Watanabe, Shunya (2019). “Supervised Structural Annotation for Electronic Dance Music.” Capstone project in Computer Science, NYUAD
- Simmons, Keira (2019). “Listening to Abu Dhabi.” Capstone Project in Music studies, NYUAD
- Kuzmenko, Leonid. (2018). “Blending Technology, Virtual Instruments, and Live Performers in Music Scoring.” Capstone project in Music practice, NYUAD
- Klaric, Andrija. (2018). “Symbolic Oscillations: Using Feedback to Augment Parameter Relationships in Digital Music Systems”. Capstone project in Music practice, NYUAD
- White, Nicholas (2018). “Tuned: A Web-Based Music Recommendation System for Groups of Users.” Capstone project in Computer Science, NYUAD
- Martinez, Cristóbal. (2015). “Golfo musiqa.” Capstone project in Music practice, NYUAD
- Daengdej, Prangphisut.(2015). “Variations on Footsteps and Rustling Leaves Op.9’: Hacking Noise on Paper with *Concrète*.” Capstone project in Music practice, NYUAD*
- Heo, Seonmin.(2014). “Recreating performance styles of Fats Waller, Erroll Garner, and Art Tatum Through computer programming” Capstone project in Music practice, NYUAD*
- Nivia, Manuel. (2014). “AUHDIO—^[1]_[SEP]Vitalizing the Music Scene of Abu Dhabi: A reflection on establishing a music showcase and platform in Abu Dhabi” Capstone project in Music practice, NYUAD*

DOCTORAL DISSERTATION JURYS

- 20/01/2015 Jury in final examination of Doctoral dissertation in Art, Science and Technology at the Catholic University of Porto, Portugal entitled “Ilusões sonoras: Um estudo sobre a aplicação da ilusão sonora na escala de Shepard,” by Pedro Patrício
- 29/07/2014 Jury in final examination of Doctoral dissertation in Art, Science and Technology at the Catholic University of Porto, Portugal entitled “Influences of stage acoustics in music performance: A new paradigm for the simulation of acoustic events for interactive auralization with musicians,” by Gustavo Afonso Nina Almeida
- 17/03/2011 Jury in final examination of Doctoral dissertation in Communication Sciences, specialty in Interactive Media and Audiovisual at the Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa entitled “O que é um interface?: Da entificação à identificação do interface enquanto complexo mediador” by Cristina Sá
- 14/05/2009 Jury in final examination of Doctoral dissertation in Musicology at the Universidad de Vigo entitled ““La obra musical de David de Puerto: una postura estética de la postvanguardia” by Eduardo Soutullo Garcia

CONFERENCE ORGANIZATION AND PARTICIPATION

- 2019 Tech. Committee for the New Instruments of Musical Expression Conference, 2019, Porto Alegre, Brazil
- Tech. Committee for the 20th International Society for Music Information Retrieval Conference (ISMIR 2020), Delft, The Netherlands
- 2017 Music Committee of the 43rd International Computer Music Conference, Shanghai, China
- Music Committee of the 13th International Symposium on Computer Music Multidisciplinary Research
- Tech. Committee of the XCoax Conference 2017

- 2016 Tech. Committee of the Sound and Music Computing Conference 2016
Music Committee of the 42nd International Computer Music Conference, Utrecht, The Netherlands
- Tech. Committee of the XCoax Conference 2016
- 2015 Co-Chair of the Music Program of 16th International Society for Music Information Retrieval Conference (ISMIR 2015), Malaga, Spain
Music Committee of the 41st International Computer Music Conference, Denton, TX
Tech. Committee for the 21st International Symposium on Electronic Art (ISEA 2015)
Tech. Committee for the 2nd Workshop on Movement and Computing (MOCO 2015)
Tech. Committee for ARTECH 2015
- 2014 Co-organizer of Workshop “Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm and Improvisation II,” New York University Abu Dhabi Institute, Abu Dhabi, UAE
Co-chair of the Performance and Electronic Music Program for the 20th International Symposium on Electronic Art (ISEA 2014)
Co-organizer of ISEA 2014 @ NYUAD event, including “Reverberance,” the curated exhibition of electronic art works submitted to ISEA 2014 at NYU Abu Dhabi
Tech. Committee for the xCoax 2014 Conference in Porto, Portugal
Tech. Committee for the 20th International Symposium on Electronic Art (ISEA 2014)
- 2013 Music Committee for the 14th International Society for Music Information Retrieval Conference (ISMIR 2013), Curitiba, Brazil
Co-organizer of Workshop “Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm,” New York University Abu Dhabi Institute, Abu Dhabi, UAE
Tech. Committee for the xCoax Conference in Bergamo, Italy
- 2012 Conference Co-Chair of the 13th International Society for Music Information Retrieval Conference (ISMIR 2012), Porto, Portugal
Tech. Committee for the ARTECH 2012, 6th International Conference on Digital Art, U of Algarve, Portugal
- 2011 Tech. Committee for the New Instruments of Musical Expression Conference, 2011, Oslo
- Tech. Committee for the International Computer Music Conference, 2011, Huddersfield, UK
- 2010 Tech. Committee for the 7th Sound and Music Computing Conference, 2010, Barcelona, Spain
Tech. Committee for the International Computer Music Conference, 2010, Stony Brook, NY
- 2009 Co-Chair of the Music Program and organizer of the 6th Sound and Music Computing Conference (July 23-25, Casa da Música) Porto, Portugal
(<http://smc2009.smcnetwork.org/>)
- 2008 Tech. Committee for the ARTECH 2008, 4th International Conference on Digital Art, Catholic University, Porto, Portugal
- 2007 Tech. Committee for the International Computer Music Conference, 2007, Copenhagen, Denmark

NON-ACADEMIC INSTITUTIONAL ACTIVITIES

- 2014-2015 Member of the advisory board for CAET, Center for Arts and Entertainment Technologies at the University of Texas at Austin.
- 2013- 2015 Member of the Advisory Board of the UT Austin | Portugal partnership
- 2013- Member of the Sonoscopia Association, Porto, Portugal
- 2007- Consultant of project Digitopia in Casa da Música, Porto, Portugal

2001 Coordination of the organization of multimedia technology workshops for the Department of Cinema, Audiovisual and Multimedia of Porto 2001, European Capital of Culture