

Charalampos Saitis

Research Associate (Postdoc)
 Chair of Acoustic and Haptic Engineering
 Institute of Acoustics and Speech Communication
 Faculty of Electrical and Computer Engineering
 TU Dresden

Lecturer & Research Collaborator
 Audio Communication Group
 Institute of Language and Communication
 Faculty of Humanities
 TU Berlin

Education

PhD in Music Technology, *McGill University*, Montréal (2014)

Thesis: “Evaluating violin quality: Player reliability and verbalization”

Advisor: Gary P Scavone; Co-advisors: Claudia Fritz, Bruno L Giordano; Readers: Marc Leman, Lawrence Joseph

MA in Sonic Arts (with Distinction), *Queen’s University Belfast* (2008)

Thesis: “An investigation into the effect of string stiffness on the hammer-string interaction”

Advisor: Maarten van Walstijn

PgDip in Music and Media Technologies, *Trinity College Dublin* (2007)

BSc (Hons) in Mathematics, *National and Kapodestrian University of Athens* (2005)

Erasmus exchange student, University of Würzburg, Germany (10/2004–03/2005)

Academic positions

Research Associate (Postdoc), *Chair of Acoustic and Haptic Engineering, TU Dresden* (02/2019–current)

Lecturer, *Faculty of Humanities, TU Berlin* (04/2017–current)

Voice Communication (Co-Instructor; graduate seminar; about 20 students)

Timbre Analysis (Instructor; graduate project-based seminar; 3 students)

Audio Content Analysis for Timbre and Musical Dynamics (Instructor; graduate seminar; 29 students)

The Perception of Timbre (Instructor; graduate seminar; 11 students)

Humboldt Research Fellow, *Audio Communication Group, TU Berlin* (06/2016–01/2019)

Postdoctoral Fellow, *Data Science Lab, Fondazione ISI, Turin* (05/2015–05/2016)

Postdoctoral Fellow, *Computational Acoustic Modeling Lab, McGill University, Montréal* (01/2014–04/2015)

Course Instructor, *McGill University, Montréal* (09/2009–12/2014)

Fundamentals of New Media (Instructor; undergraduate course; about 40 students)

New Media Production I (Co-Instructor; undergraduate course; about 20 students)

New Media Production II (Co-Instructor; undergraduate course; about 15 students)

Advanced Multimedia Development (Co-Instructor; advanced undergraduate course; 4 students)

Research Assistant (Doctoral), *Computational Acoustic Modeling Lab, McGill University, Montréal* (09/2008–12/2013)

Research funding

FWF Lise Meitner Programme, Austrian Science Fund (2019–2021; EUR 169,260)

DFG International Scientific Events Funding, German Research Foundation (2017; EUR 8,000)

Humboldt Research Fellowship, Alexander von Humboldt Foundation, Germany (2016–2018; EUR 65,000)

CIRMMT Inter-Centre Research Exchange Funding, McGill University, Montréal (2011; CAD 4,000)

CIRMMT Student Award, McGill University, Montréal (2009–2012; total CAD 10,000)

J. W. McConnell Fellowship, McGill University, Montréal (2009; CAD 5,000)

Schulich Scholarship, McGill University, Montréal (2008; CAD 10,000)

Provost’s Graduate Fellowship, McGill University, Montréal (2008; CAD 5,000)

Scientific prizes

Best Paper Award (Saitis and Kalimeri, 2016; Spagnol, Saitis, et al., 2016)

AHRC/ACM Transforming Musicology Challenge Prize (Saitis, Hankinson, and Fujinaga, 2014)

ASA Best Student Paper in Musical Acoustics (Saitis et al., 2010)

Research publications

Google Scholar **H-index: 7**

<https://tinyurl.com/y5ogxo48>

Edited books

K Siedenburg, **C Saitis**, S McAdams, AN Popper, and RR Fay, eds. *Timbre: Acoustics, Perception, and Cognition*. Springer Handbook of Auditory Research. Cham, Switzerland: Springer, 2019 (in press)

S Papetti and **C Saitis**, eds. *Musical Haptics*. Springer Series on Touch and Haptic Systems. Cham, Switzerland: Springer, 2018

Book chapters

C Saitis and S Weinzierl. “The Semantics of Timbre”. In: *Timbre: Acoustics, Perception, and Cognition*. Ed. by K Siedenburg, **C Saitis**, S McAdams, AN Popper, and RR Fay. Springer Handbook of Auditory Research. Cham, Switzerland: Springer, 2019 (in press)

M Caetano, **C Saitis**, and K Siedenburg. “Audio Content Descriptors of Timbre”. In: *Timbre: Acoustics, Perception, and Cognition*. Ed. by K Siedenburg, **C Saitis**, S McAdams, AN Popper, and RR Fay. Springer Handbook of Auditory Research. Cham, Switzerland: Springer, 2019 (in press)

K Siedenburg, **C Saitis**, and S McAdams. “The Present, Past, and Future of Timbre Research”. In: *Timbre: Acoustics, Perception, and Cognition*. Ed. by K Siedenburg, **C Saitis**, S McAdams, AN Popper, and RR Fay. Springer Handbook of Auditory Research. Cham, Switzerland: Springer, 2019 (in press)

S Papetti and **C Saitis**. “Musical Haptics: Introduction”. In: *Musical Haptics*. Ed. by S Papetti and **C Saitis**. Cham, Switzerland: Springer, 2018, pp. 1–7

C Saitis, H Järveläinen, and C Fritz. “The Role of Haptic Cues in Musical Instrument Quality Perception”. In: *Musical Haptics*. Ed. by S Papetti and **C Saitis**. Cham, Switzerland: Springer, 2018, pp. 73–93

C Saitis. “Fractal Art: Closer to Heaven? Modern Mathematics, the art of Nature and the nature of Art”. In: *Aesthetics of Interdisciplinarity: Art and Mathematics*. Ed. by K Fenyvesi and T Lähdesmäki. Cham, Switzerland: Birkhäuser, 2017, pp. 153–163

C Saitis and K Kalimeri. “Identifying Urban Mobility Challenges for the Visually Impaired with Mobile Monitoring of Multimodal Biosignals”. In: *Universal Access in Human-Computer Interaction. Users and Context Diversity*. Ed. by M Antona and C Stephanidis. Cham, Switzerland: Springer, 2016, pp. 616–627

M Bujacz, K Kropidłowski, G Ivanica, A Moldoveanu, **C Saitis**, A Csapo, G Wersenyi, S Spagnol, OI Johannesson, R Unnthorsson, M Rotnicki, and P Witek. “Sound of Vision - Spatial Audio Output and Sonification Approaches”. In: *Computers Helping People with Special Needs (Proceedings, Part II)*. ed. by K Miesenberger, C Bühler, and P Penaz. Cham, Switzerland: Springer, 2016, pp. 202–209

Peer-reviewed journal papers

C Saitis and K Kalimeri. “Multimodal classification of stressful environments in visually impaired mobility using EEG and peripheral biosignals”. In: *IEEE Transactions on Affective Computing* (Early Access) (2018)

C Saitis, MZ Parvez, and K Kalimeri. “Cognitive load assessment from EEG and peripheral biosignals for the design of visually impaired mobility aids”. In: *Wireless Communications and Mobile Computing* (2018), Article ID 8971206

C Saitis, C Fritz, GP Scavone, C Guastavino, and D Dubois. “Perceptual evaluation of violins: A psycholinguistic analysis of preference verbal descriptions by experienced musicians”. In: *The Journal of the Acoustical Society of America* 141.4 (2017), pp. 2746–2757

H Mansour, V Fréour, **C Saitis**, and GP Scavone. “Post-classification of nominally identical steel string guitars using bridge admittances”. In: *Acta Acustica united with Acustica* 101.2 (2015), pp. 394–407

C Saitis, GP Scavone, C Fritz, and BL Giordano. “Effect of task constraints on the perceptual evaluation of violins”. In: *Acta Acustica united with Acustica* 101.2 (2015), pp. 382–393

C Saitis, BL Giordano, C Fritz, and GP Scavone. “Perceptual evaluation of violins: A quantitative analysis of preference judgments by experienced players”. In: *The Journal of the Acoustical Society of America* 132.6 (2012), pp. 4002–4012

Peer-reviewed conference papers

C Saitis, S Weinzierl, K von Kriegstein, S Ystad, and C Cuskley. “Timbre semantics through the lens of crossmodal correspondences: a new way of asking old questions”. In: *Proceedings of the International Symposium on Universal Acoustical Communication*. Sendai, Japan, 2018

K Kalimeri and **C Saitis**. “Exploring multimodal biosignal features for stress detection during indoor mobility”. In: *Proceedings of the 18th ACM International Conference on Multimodal Interaction (ICMI)*. Tokyo, Japan, 2016, pp. 53–60

S Spagnol, **C Saitis**, K Kalimeri, OI Johannesson, and R Unnthorsson. “Sonificazione di ostacoli come ausilio alla deambulazione di non vedenti (Obstacle sonification as navigation aid for the visually impaired)”. In: *Proceedings of the XXI Colloquio di Informatica Musicale (Colloquium of Musical Informatics)*. Cagliari, Italy, 2016

S Spagnol, **C Saitis**, M Bujacz, OI Johannesson, K Kalimeri, A Moldoveanu, A Kristjansson, and R Unnthorsson. “Model-based obstacle sonification for the navigation of visually impaired persons”. In: *Proceedings of the 19th International Conference on Digital Audio Effects (DAFx-16)*. Brno, Czech Republic, 2016, pp. 309–316

- C Saitis**, A Hankinson, and I Fujinaga. “Correcting large-scale OMR data with crowdsourcing”. In: *Proceedings of the 1st International Workshop on Digital Libraries for Musicology (DLfM)*. London, UK, 2014
- C Saitis**, GP Scavone, C Fritz, and BL Giordano. “Evaluating violin quality: A comparison of player reliability in constrained vs. unconstrained tasks”. In: *Proceedings of the 2013 Stockholm Music Acoustics Conference (SMAC)*. Stockholm, Sweden, 2013, pp. 109–114
- C Saitis**, C Fritz, C Guastavino, and GP Scavone. “Conceptualization of violin quality by experienced performers”. In: *Proceedings of the 2013 Stockholm Music Acoustics Conference (SMAC)*. Stockholm, Sweden, 2013, pp. 123–128
- C Saitis**. “Fractal Art: Closer to Heaven? Modern Mathematics, the art of Nature and the nature of Art”. In: *Proceedings of Bridges Donostia: Mathematics, Music, Art, Architecture, Culture*. San Sebastian, Spain, 2007, pp. 369–376
- Conference papers/abstracts**
- C Saitis**, K Siedenburg, P Schuladen, C Reuter. “The role of attack transients in timbral brightness perception”. Invited paper, special session “Articulation and other transients”, *23rd International Congress on Acoustics*. Aachen, Germany, 2019
- C Saitis**, G Marentakis, L Johannsen. “Timbre in binaural listening: a comparison of timbre descriptors in anechoic and HRTF filtered orchestral sounds”. Accepted, *23rd International Congress on Acoustics*. Aachen, Germany, 2019
- L Marinelli, A Lykartsis, **C Saitis**, S Weinzierl. “Musical dynamics classification using convolutional neural networks with modulation power spectra”. Submitted, *20th Conference of the International Society for Music Information Retrieval*. Delft, The Netherlands, 2019
- C Saitis**, K Siedenburg, C Reuter. “Revisiting timbral brightness perception”. Accepted, *Biennial Meeting of the Society for Music Perception and Cognition*. New York, 2019
- C Saitis**, J Devaney. “There’s more to timbre than musical instruments: a meta-analysis of timbre semantics in singing voice quality perception”. Accepted, *Biennial Meeting of the Society for Music Perception and Cognition*. New York, 2019
- C Saitis**, L Marinelli, A Lykartsis, S Weinzierl. “Spectrotemporal modulation timbre cues in musical dynamics”. Accepted, *Biennial Meeting of the Society for Music Perception and Cognition*. New York, 2019
- C Saitis**, C Fritz, GP Scavone. “Sounds like melted chocolate: how musicians conceptualize violin sound richness”. Submitted, *International Symposium on Music Acoustics*. Detmold, Germany, 2019
- J Jewanski, C Reuter, **C Saitis**, I Czedik-Eysenberg, S Siddiq, S Kruchten, R Sakhablev, and M Oehler. “Timbres and colors—features and tendencies of timbre-color mappings”. In: *Proceedings of the second international academic conference of the Dutch Institute in St. Petersburg (NIP): Polylogue and synthesis of the arts: history and modernity, theory and practice*. St. Petersburg, Russia, 2019, pp. 50–51
- C Saitis** and K Siedenburg. “Bright strings versus bright trumpets: Acoustic and categorical dissimilarity of timbral brightness”. In: *Proceedings of the 34. Jahrestagung der Deutschen Gesellschaft für Musikpsychologie: Musik im audiovisuellen Kontext*. Gießen, Germany, 2018
- C Reuter, J Jewanski, **C Saitis**, I Czedik-Eysenberg, S Siddiq, and M Oehler. “Colors and timbres—consistent color-timbre mappings at non-synesthetic individuals”. In: *Proceedings of the 34. Jahrestagung der Deutschen Gesellschaft für Musikpsychologie: Musik im audiovisuellen Kontext*. Gießen, Germany, 2018
- C Saitis** and K Siedenburg. “Exploring the role of source-cause categories in timbral brightness perception”. In: *Proceedings of Timbre 2018: Timbre is a Many-Splendored Thing*. Montreal, Canada, 2018, pp. 79–80
- C Saitis**, A Lykartsis, and S Weinzierl. “Verbal Data-Driven Semantic Dimensions of Musical Timbre”. In: *Proceedings of the 44. Deutsche Jahrestagung für Akustik (DAGA 2018)*. Munich, Germany, 2018
- C Saitis** and S Weinzierl. “Concepts of timbre emerging from musician linguistic expressions”. In: *The Journal of the Acoustical Society of America* 141 (2017), p. 3799 (invited talk)
- Q Llimona, **C Saitis**, E Maestre, and GP Scavone. “Exploring simulation-based playability metrics of 9 perceptually evaluated violins”. In: *Proceedings of the 2017 International Symposium on Musical Acoustics (ISMA)*. Montreal, Canada, 2017, p. 89
- C Saitis**, C Fritz, and GP Scavone. “Categorization and lexicon in verbal descriptions of violin quality by performers”. In: *The Journal of the Acoustical Society of America* 135 (2014), p. 2214 (invited talk)
- V Fréour, H Mansour, **C Saitis**, and GP Scavone. “Evaluation and classification of steel string guitars using bridge admittances”. In: *Proceedings of the 2014 International Symposium on Musical Acoustics (ISMA)*. Le Mans, France, 2014, pp. 317–321
- C Saitis**, GP Scavone, C Fritz, and BL Giordano. “Perceptual evaluation of violins: A comparison of intra-individual agreement in playing vs. listening tasks for the case of richness”. In: *Proceedings of Meetings on Acoustics*. Vol. 19. 2013, p. 035029
- C Saitis**, C Fritz, C Guastavino, BL Giordano, and GP Scavone. “Investigating consistency in verbal descriptions of violin preference by experienced players”. In: *Proceedings of the 12th International Conference on Music Perception and Cognition (ICMPC) and 8th Triennial Conference of the European Society for the Cognitive Sciences of Music (ESCOM)*. Thessaloniki, Greece, 2012, pp. 875–876
- C Saitis**, C Fritz, BL Giordano, and GP Scavone. “Bridge admittance measurements of 10 preference-rated violins”. In: *Proceedings of the Acoustics 2012 Nantes Conference*. Nantes, France, 2012, pp. 3599–3604
- C Saitis**, BL Giordano, C Fritz, and GP Scavone. “Aspects of experimental design for the perceptual evaluation of

- violin qualities". In: *Canadian Acoustics* 39.3 (2011), pp. 134–135
- C Saitis**, BL Giordano, C Fritz, and GP Scavone. "Investigating the origin of inter-individual differences in the preference for violins". In: *Proceedings of the 2011 Forum Acusticum*. Aalborg, Denmark, 2011, pp. 497–501
- C Saitis**, GP Scavone, C Fritz, and BL Giordano. "Evaluating violin quality: How consistent are skilled players?" In: *The Journal of the Acoustical Society of America* 128 (2010), p. 2284
- C Saitis**, S Orr, and M van Walstijn. "Physical modeling of the piano: An investigation into the effect of string stiffness on the hammer-string interaction". In: *The Journal of the Acoustical Society of America* 125 (2009), p. 2684

Invited talks

- 23rd International Congress on Acoustics, Aachen (09/2019)
- 26th International Congress on Sound and Vibration, Montréal (07/2019; declined)
- "Most Wanted: Music" convention, Berlin (11/2018; with Stefano Papetti)
- Lofelt GmbH, Berlin, Germany (11/2018)
- Seminar on brain, hearing and speech sciences for universal speech communication, Tohoku University (10/2018)
- 3rd Joint Meeting of the Acoustical Society of America and the European Acoustics Association, Boston (06/2017)
- ACM Workshop on Wearable MultiMedia, Bucharest (06/2017; talk given by Kyriaki Kalimeri)
- Berlin Interdisciplinary Workshop on Timbre, TU Berlin/Berlin Musical Instrument Museum (01/2017)
- Yamaha Corporation, R&D Division, Hamamatsu, Japan (11/2016)
- Workshop on Haptics and Musical Practice, Zürich University of the Arts (02/2016)
- 167th Meeting of the Acoustical Society of America, Providence (05/2014)
- Workshop on Sensory Experience, Language and Knowledge, McGill University/CIRMMT (09/2012)
- Workshop on Verbal Data Analysis, McGill University/CIRMMT (06/2012)
- Workshop on String Instrument Measurements, McGill University/CIRMMT (03/2012)
- Violin Society of America Oberlin Acoustics Workshop, Oberlin College (06/2011)
- Workshop on String Instruments: Acoustics and Perceived Quality, McGill University/CIRMMT (03/2010)

Workshops

- 21st EEGLAB Workshop with Scott Makeig and Arnaud Delorme, Santa Margherita Ligure, Italy (04/2016)
- Workshop on Haptics and Musical Practice, Zürich University of the Arts (02/2016)
- Workshop on Sensory Experience, Language and Knowledge, McGill University/CIRMMT (09/2012)
- Workshop on Verbal Data Analysis, McGill University/CIRMMT (06/2012)
- Workshop on String Instrument Measurements, McGill University/CIRMMT (03/2012)
- Violin Society of America Oberlin Acoustics Workshop, Oberlin College (07/2009, 06/2010, 06/2011)
- Workshop on String Instruments: Acoustics and Perceived Quality, McGill University/CIRMMT (03/2010)
- Workshop on Mathematics and Music with Georges Bloch and Moreno Andreatta, Dublin, Ireland (05/2007)
- Summer School in Mathematics, University of Crete, Heraklion, Greece (07/2003)

Conference organization

- Organizer, Berlin Interdisciplinary Workshop on Timbre (www.timbre2017.tu-berlin.de) (2017)
- Paper committee, International Symposium on Computer Music Multidisciplinary Research (2017–current)
- Local organizing committee, 2017 International Symposium on Musical Acoustics
- Action committee, BKN25: Milestones in Music Cognition (2014)

Review activities

Journals

- The Journal of the Acoustical Society of America*
- Frontiers in Psychology*
- IEEE Transactions on Haptics*
- Frontiers in Digital Humanities*
- IEEE Transactions on Human-Machine Systems*
- ACM Transactions on Applied Perception*
- IEEE Access*
- Organised Sound*
- Innovation and Research in BioMedical engineering*
- Journal of Mathematics and the Arts*

Conferences

- Sound and Music Computing Conference (SMC)

International Symposium on Computer Music Multidisciplinary Research (CMMR)
International Computer Music Conference (ICMC)
International Conference on New Interfaces for Musical Expression (NIME)
Stockholm Music Acoustics Conference (SMAC)
ACM Symposium on Spatial User Interaction (ACM SUI)
Vienna Talk on Music Acoustics
Timbre 2018: Timbre is a Many-Splendored Thing

Professional memberships

Acoustical Society of America (ASA)
German Acoustical Society (DEGA)
European Society for the Cognitive Sciences of Music (ESCOM)
German Society for Music Psychology (DGM)
Society for Music Perception and Cognition (SMPC)
Hellenic Institute of Acoustics (HELINA)

Languages

Greek (native speaker)
English (fluent/professional)
German (fluent)
Spanish (intermediate)
French (intermediate)