

Maria C. Mannone, Ph.D.

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Postdoc at ECLT, Ca' Foscari, Venice;

Associate Editor (in training) and Member of the Editorial Board of the *Journal of Mathematics and the Arts*;

Member of the Editorial Board of the *Journal of Mathematics and Music*;

Member of the Editorial Board of *Nuova Lettera Matematica*;

Reviewer for zbMath;

“Cultore della materia” (subject expert) at the Department of Mathematics and Computer Science of the University of Palermo

ORCID: <http://orcid.org/0000-0003-3606-3436>

h-index: 5, citations: 56 (according to Scopus)

Nationality: Italian; **date and place of birth:** 10/18/1985, in Palermo, Italy

Awards: University of Minnesota, Doctoral Dissertation Fellowship;
U of M, Interdisciplinary Doctoral Fellowship, Fine Institute of Theoretical Physics;
U of M, School of Music Fellowship

Academic accomplishments: *Summa cum laude* in Theoretical Physics

Degrees

Ph.D.

Music Composition, University of Minnesota, May 6 2017

Equipollent to the Italian university doctorate, protocol no. 000036, January 22, 2020

Thesis title: “Musical Gestures between Scores and Acoustics: A Creative Application to Orchestra”

Doctoral committee: Prof. Alex Lubet (advisor, composer), Prof. Mikhail Shifman (theoretical physicist, Dirac medalist), Prof. David Walsh (Opera director), Prof. Maja Radovanlija (music performer).

Master 2 ATIAM (Acoustics, Signal Processing and Computer Science applied to Music), equivalent to “Laurea Magistrale”

IRCAM – UPMC Paris VI Sorbonne, 9/9/2013; Marks: 12.30/20

Thesis title: “Segmentation de series temporelles pour l’orchestration automatique.” *Advisor:* Prof. Carlos Agon

Master in Orchestral Conducting (Diploma V.O., equiparato alla Laurea Magistrale)

Conservatorio di Musica “Vincenzo Bellini”, Palermo, 7/4/2012; Marks: 10/10. *Advisor:* Prof. Carmelo Caruso

Master in Theoretical Physics (Laurea Magistrale in Fisica Teorica)

Università degli Studi di Palermo, 3/28/2012; Marks: 110/110 *summa cum laude*, and thesis mentioned for the Prize Gugino competition

Thesis title (translated into English): “Non-Markovianity in open quantum systems under the action of Random External Fields and with decay” (*containing applications of non-Markovianity dynamics to musical structures*).

Advisor: Prof. Giuseppe Compagno

Bachelor in Physics (Laurea in Fisica)

Università degli Studi di Palermo, 11/12/2009; Marks: 97/110

Thesis title: “Dynamics of violation of Bell-Mermin’s inequalities in open quantum systems.” *Advisor:* Prof.

Giuseppe Compagno

Master in Composition (Diploma V.O., equiparato alla Laurea Magistrale)

Conservatorio di Musica “Vincenzo Bellini”, Palermo, 10/1/2009; Marks: 9/10. *Advisor: Prof. Marco Betta*

Master in Piano (Diploma V.O., equiparato alla Laurea Magistrale)

Conservatorio di Musica “Vincenzo Bellini”, Palermo, 9/25/2008; Marks: 10/10. *Advisor: Prof. Renato Giarrizzo*

High-School

Ginnasio-Liceo Classico Statale “Vittorio Emanuele II”, Palermo, 7/1/2004; Marks: 100/100

Books

F. Favali and **M. Mannone** (editors and translators), “Simmetrie fra Matematica e Musica,” selection and translation into Italian of English articles on music and symmetry, Palermo University Press/New Digital Frontiers, I quaderni di Clío no. 3, 2020

M. Mannone, *Mathematics, Nature, Art*, Palermo University Press, Palermo, 2019

G. Mazzola, R. Guitart, J. Ho, A. Lubet, **M. Mannone**, M. Rahaim, F. Thalmann, *The Topos of Music III: Gestures*, Springer Series Computational Music Science, 2018

G. Mazzola, **M. Mannone**, Y. Pang, M. O’ Brien, N. Torunsky, *All About Music: The Complete Ontology: Realities, Semiotics, Communication, and Embodiment*, Springer Series Computational Music Science, 2016

G. Mazzola, **M. Mannone**, Y. Pang, *Cool Math for Hot Music*, Springer Series Computational Music Science, Heidelberg et al., 2016

M. Mannone, *Dalla Musica all’Immagine, dall’Immagine alla Musica - Relazioni matematiche fra composizione musicale e arte figurative (From Music to Images, from Images to Music – Mathematical relations between musical composition and figurative art)*, Edizioni Compostampa, Palermo, 2011

Book Chapters

M. Mannone, “Theoretical Physics and Category Theory as Tools for Analysis of Musical Performance and Composition,” in *Mathematical Music Theory: Algebraic, Geometric, Combinatorial, Topological and Applied Approaches to Understanding Musical Phenomena*, eds. M. Montiel and R. W. Peck, 215-231, World Scientific, 2018

M. Mannone, “Can Mathematical Music Theory be Easily Learnt and also be Fun?” In *Theoretical and Practical Pedagogy of Mathematical Music Theory: Music for Mathematics and Mathematics for Music, From School to Postgraduate Levels*, eds. M. Montiel and F. Gómez, 281-298, World Scientific, 2018

Journal Papers

M. Mannone. *A musical reading of a contemporary installation and back: mathematical investigations of patterns in Qwalala*. Journal of Mathematics and Music (accepted for publication), 2020

D. Rocchesso and **M. Mannone**. *A Quantum Vocal Theory of Sound*. Quantum Information Processing, 2020, <http://dx.doi.org/10.1007/s11128-020-02772-9>, SJR: 0.610 updated to 2018, H-Index: 51 according to Scimago, <https://doi.org/10.1007/s11128-020-02772-9>

P. beim Graben and **M. Mannone**. *Musical pitch quantization as an eigenvalue problem*. Journal of Mathematics and Music, 2020, <https://www.tandfonline.com/doi/abs/10.1080/17459737.2020.1763488>
JCR: 0.261, updated to 2018; H-Index: 11 according to Scimago

M. Mannone and F. Favali. *Musical Form and Architectural Structure: Some Considerations on Qwalala*. Context: Journal of Music Research, Australia, 2020, in press (indexed on the International Index of Music Periodicals)

DOI to be assigned

M. Mannone and D. Papageorgiou. *Gestural Similarity, Mathematics, Psychology. Hints from a First Experiment and some Applications between Pedagogy and Research*. Journal of Collected papers of Academy of Arts of Novi Sad (Zbornik radova Akademije umetnosti), Eight Issue, Zbornik, Serbia, 2020, pp. 137-153
doi: 10.5937/ZbAkU2008137M. ISSN 2334-8666

M. Mannone, F. Favali, B. Di Donato, and L. Turchet, *Quantum GestART: Identifying and Applying Correlations between Mathematics, Art, and Perceptual Organization*. Journal of Mathematics and Music, 2020, <https://www.tandfonline.com/doi/abs/10.1080/17459737.2020.1726691>
JCR: 0.261, updated to 2018; H-Index: 11 according to Scimago

M. Mannone, I. Iaccarino, and R. Iembo, *Dense Geometry of Music and Visual Arts: Vanishing Points, Continuous Tonnetz, and Theremin Performance*, The STEAM Journal, 3 (2), article 15, 2018 <https://scholarship.claremont.edu/steam/vol3/iss2/15/>

M. Mannone, *Artist's Statement: Some Parametric Art*, The STEAM Journal, 2018, 3 (2), article 13, 2018 <https://scholarship.claremont.edu/steam/vol3/iss2/13/>

M. Mannone, *cARTegory Theory: framing Aesthetics of Mathematics*, Journal of Humanistic Mathematics, 9 (18), 277--294, 2019, <https://scholarship.claremont.edu/jhm/vol9/iss1/16>

M. Mannone, E. Kitamura, J. Huang, R. Sugawara, and Y. Kitamura, *Musical Combinatorics, Tonnetz, and the CubeHarmonic*, Journal of Collected papers of Academy of Arts, Sixth Issue, pp. 104-116, Zbornik, Serbia, 2018, <https://scindeks-clanci.ceon.rs/data/pdf/2334-8666/2018/2334-86661806104M.pdf>

M. Mannone, *Introduction to Gestural Similarity in Music. An Application of Category Theory to the Orchestra*, Journal of Mathematics and Music, 12 (2), pp. 63-87, 2018, <https://www.tandfonline.com/doi/full/10.1080/17459737.2018.1450902>
JCR: 0.261, updated to 2018; H-Index: 11 according to Scimago

M. Mannone, *Knots, Music, and DNA*, Journal of Creative Music Systems, March 2018, <https://www.jcms.org.uk/article/id/523/>
Indexed on SCOPUS

M. Mannone, K. Gkoudina, E. Tyler, *Narrating the Origin of the Universe through the Music: a Case Study*, Journal of Collected papers of Academy of Arts of Novi Sad, Fifth Issue, pp. 110-119, Zbornik, Serbia, 2017, <http://scindeks-clanci.ceon.rs/data/pdf/2334-8666/2017/2334-86661705110M.pdf>
A video abstract is available: <https://www.youtube.com/watch?v=-Mb6FnGDZiI>

M. Mannone, *Networks of Music and Images*, Gli Spazi della Musica, University of Torino, 6 (2), 2017, <http://www.ojs.unito.it/index.php/spazidellamusica/article/view/2528>

M. Mannone, *Marco Orsini conducts Music without Seeing*, American Council of the Blind, ACB E-Forum Volume LV June 2017 No.12, <http://acb.org/content/acb-e-forum-volume-lv-june-2017-no-12>

G. Mazzola and **M. Mannone**, *Global Functorial Hypergestures over General Skeleta for Musical Performance*, Journal of Mathematics and Music, 2016, <http://dx.doi.org/10.1080/17459737.2016.1195456>
JCR: 0.261, updated to 2018; H-Index: 11 according to Scimago

G. Mazzola and **M. Mannone**, *Hegel's Conceptual Group Action on Creative Dynamics in Music*, Gli spazi della musica, University of Torino, 2014, <https://www.ojs.unito.it/index.php/spazidellamusica/article/view/819>

M. Mannone, R. Lo Franco and G. Compagno, *Comparison of non-Markovianity criteria in a qubit system under random external fields*, Physica Scripta, Phys. Scr. T153 (2013) 014047, <https://iopscience.iop.org/article/10.1088/0031-8949/2013/T153/014047>
JCR: 0.534, updated to 2018; H-Index: 71 according to Scimago

ArXiv

M. Mannone and G. Compagno, *Characterization of the degree of non-Markovianity in Musical Composition*
ArXiv <https://arxiv.org/abs/1306.0229>

Papers in Conference Proceedings

M. Mannone, E. Kitamura, J. Huang, R. Sugawara, P. Chiu, and Y. Kitamura, *CubeHarmonic: A New Musical Instrument Based on Rubik's Cube with Embedded Motion Sensor*, ACM SIGGRAPH '19, Los Angeles, California, USA, pages 53:1-53:2, 2019, <http://doi.acm.org/10.1145/3306214.3338572>
H-Index: 144 according to Scimago

M. Mannone and F. Favali, *Categories, Musical Instruments, and Drawings: A Unification Dream*, Proceedings of the Conference of Mathematics and Computation in Music, Madrid. M. Montiel, F. Gómez and O. Agustín-Aquino (editors), Lecture Notes in Computer Science, Springer, pages 59-72, 2019, https://link.springer.com/chapter/10.1007/978-3-030-21392-3_5
SJR: 0.283 updated to 2018, H-Index: 324 according to Scimago

M. Mannone and L. Turchet, *Shall We (Math and) Dance?*, Proceedings of the Conference of Mathematics and Computation in Music, Madrid. M. Montiel, F. Gómez and O. Agustín-Aquino (editors), Lecture Notes in Computer Science, Springer, pages 84-97, 2019, https://link.springer.com/chapter/10.1007/978-3-030-21392-3_7
SJR: 0.283 updated to 2018, H-Index: 324 according to Scimago

M. Mannone, *Have Fun with Math and Music!*, invited contribution, Mathematics and Computation in Music Conference, Madrid. M. Montiel, F. Gómez and O. Agustín-Aquino (editors), Lecture Notes in Computer Science, Springer, pages 379-382, 2019, https://link.springer.com/chapter/10.1007/978-3-030-21392-3_33
SJR: 0.283 updated to 2018, H-Index: 324 according to Scimago

D. Rocchesso and **M. Mannone**, *Embryo of a Quantum Vocal Theory of Sound*, CIM Conference, Udine, Italy, Proceedings of the 22nd CIM, Udine, November 20-23, 101-108, 2018, http://cim.lim.di.unimi.it/2018_CIM_XXII_Atti.pdf

M. Mannone, E. Kitamura, J. Huang, R. Sugawara, and Y. Kitamura, *CubeHarmonic: A New Interface from A Magnetic 3D Motion Tracking System to Music Performance*, Proceedings of the International Conference on New Interfaces for Musical Expression, editors Luke Dahl, Douglas Bowman, Thomas Martin, Virginia Tech, pp. 350-351, http://www.nime.org/proceedings/2018/nime2018_paper0076.pdf

M. Mannone, *Mathematics, Art, and Cognitive Sciences: Some Examples of Connection*, Proceedings of the Conference of the International Journal of Arts and Sciences, University of Catania, Italy, May 29 2017, 10 (2),

233-238, <http://www.universitypublications.net/proceedings/1002/pdf/S7Y131.pdf>

M. Mannone and G. Mazzola, *Hypergestures in Complex Time: Creative Performance Between Symbolic and Physical Reality*. Proceedings of the Conference of Mathematics and Computation in Music, Lecture Notes in Computer Science, Springer, 2015, https://link.springer.com/chapter/10.1007/978-3-319-20603-5_14
SJR: 0.283 updated to 2018, H-Index: 324 according to Scimago

Articles under review

M. Mannone. *Venice, Glass, and Math. "Qwalala" and other contemporary glassworks in light of categories*. Journal of Mathematics and the Arts (submitted), 2020

M. Montiel and **M. Mannone**, *Mathematics through Music: the mathematical music composition workshop* (submitted), 2020

M. Mannone and G. Santini, *Perceived Similarities between Classes of Colors and Classes of Timbres* (submitted), 2020

M. Mannone, D. Papageorgiou, and T. Collins, *Absent gestures influence the interpretation of audio-visual correspondences: A psychological validation of the mathematical theory of musical gestures* (submitted), 2020

Selected Italian Publications

M. Mannone and D. Passaro. *Stereotipi che allontanano: il violino e il legame perduto fra arte, matematica e scienze*. Query, 2020

M. Mannone and D. Passaro. *E se l'Arte e la Matematica tornassero ad abbracciarsi? STEAM, intelligenza artificiale e arte*. Prisma, 2020

M. Mannone, *Libellule, fiori, origami: Momenti artistici al Joint Mathematics Meetings 2020*. Nuova Lettera Matematica, 1, June 2020

M. Mannone and D. Passaro, *Matematica, Arte e Coding*. La leva di Archimede, Archimede, rivista per gli insegnanti e i cultori di matematiche pure e applicate, Year LXX, October-December 2018, Number 4, Le Monnier, 2018

M. Mannone, *Il corso di ascolto e teoria musicale al Liceo Classico "G. Meli,"* in: *L'insegnamento musicale a livello di base*, Quaderni del Toscanini (*Course of listening and musical theory, basic level*, "Books of the Toscanini"), Piccola biblioteca musicale Ars Nova, Palermo, 2012

M. Mannone, *Forme e funzioni matematiche come collegamento fra le arti visive e musicali: un'ipotesi di reversibilità parziale*, Atti del Convegno *Composizione Musica Architettura (Mathematical forms and functions as a link between visual and musical arts: an hypothesis of partial reversibility)*, Proceedings of the Conference *Composizione Musica Architettura*, Casa Editrice Libria, Dicembre 2013

Mathematics and the Arts Popularization

Blog posts and interviews (including to John Baez) for the Italian blog of Applied Mathematics *Math is in the air*

Lectures and Talks

(Forthcoming) *Categories, Color Gestures, and the “Souvenir Theorem”*: using Math to navigate the Complexity of Music and the Visual Arts, January 8 2021, Joint Mathematics Meetings, special session on Mathematics and Music, online — USA

Category Theory and Compositional Music Interaction, Interactive Music Technology, International Workshop Conference on Digital Intelligence and Aware Systems, January 23 2020, Salzburg, Austria

Klein Concert: A Report from a Math-Musical Classroom Experience, January 17 2020, Joint Mathematics Meetings, special session on Mathematics and the Arts, Denver, USA

Can Beauty be Translated? A Journey between Mathematics, Music, and Nature, November 7 2019, Laser Nomad Palermo, University of Palermo, Italy

Natural Roots and Mathematical Abstraction: Algorithms and Beauty in Music, Symposium on Art and Computers, October 15, 2019, Venezia, Italy

Trees and Symphonies: Music and Mathematics to Navigate through Natural Complexity, XVI Convegno di Analisi e Teoria Musicale, October 12, 2019, Rimini, Italy

Navigare nella Complessità attraverso le Arti? Una ricerca matematica, Ca' Foscari, June 25 2019, Venezia, Italy

Have Fun with Math and Music!, Mathematics and Computation in Music 2019, Universidad Politécnica de Madrid (UPM), June 20 2019, Madrid, Spain

Shall We (Math and) Dance? (co-authored with L. Turchet), Mathematics and Computation in Music 2019, Universidad Politécnica de Madrid (UPM), June 18 2019, Madrid, Spain

Categories, Musical Instruments, and Drawings: A Unification Dream (co-authored with F. Favali), Mathematics and Computation in Music 2019, Universidad Politécnica de Madrid (UPM), June 18 2019, Madrid, Spain

Natural and Mathematical Forms and Transformations in Music, International Workshop of Composition, Alba Music Festival, May 29 2019, Alba, Italy

Avant-première: *Klein Concert, Five Compositions on a Geometric Shape*, Satellite Event (Categorical Methods in Algebra) of PSSL 105 (Peripatetic Seminar on Sheaves and Logic), in collaboration with students M. Barilà, M. Camuti, B. Genco, M. Seggio, M. Vizzini, May 17 2019, Università di Palermo, Palermo, Italy

Gesture, Music, and Categories: The Abstraction of Math meets the Variety of Expression, Workshop “Linguistic investigations beyond language: gestures, body movement and primate linguistics,” March 11 2019, Leibniz-Zentrum Allgemeine Sprachwissenschaft, Berlin, Germany

Natura, Matematica e Musica, Botanical Garden of Palermo, March 2, 2019, Palermo, Italy

A Dialogue between Mathematics, Music, and Technology, Tohoku University, Research Institute of Electrical Communication, February 21 2019, Sendai, Japan

Nature, Music, Maths, Coding (Composing Sound to Image), lecture and workshop with students, October 5 2018, Greenwich University, London, UK

Music from Nature: a Mathematical Journey, October 4 2018, Queen Mary University, London UK

How does a water lily sound? What could be the music of ammonites? A journey between mathematics, music, and nature, October 3 2018, Open University, Milton Keynes, UK

Strutture condivise e trasformazioni in matematica e musica: dalle categorie alla musicologia (with F. Favali), video with my voice, slides, and pictures, ESCOM Giornata di studio italiana, campus Trigatoria, Roma, June 28 2018

A Dialogue between Mathematics and Art: Interface, Concepts, Applications, January 24 2018, Goldsmiths University, London, UK

MathemArt: presentarlo con i fiori. Un'introduzione alle connessioni fra teoria delle categorie, musica e arti visive, January 18 2018, Physics Department — DIFTER, Università degli Studi di Palermo, Palermo, Italy

Categories and Arts: Some cARTegory Theory of Music and Visual Arts, January 10 2018, Joint Mathematics Meetings, special session on Mathematics and the Arts, San Diego, USA

Lecture and workshop with students, *Similarità gestuali: l'interpretazione musicale e il dialogo interdisciplinare*, December 20 2017, Music Conservatory "V. Bellini" of Palermo, Italy

MathemArt: presentarlo con i fiori. Un'introduzione alle connessioni fra teoria delle categorie, musica e arti visive, December 6 2017, Mathematics Department, Università degli Studi di Palermo, Palermo, Italy

Music, Information, Expressivity, November 22 2017, RIEC, Tohoku University, Sendai, Japan

Sound, Image, Gestures, and Mathematics. New translation strategies between arts, November 11 2017, Sound and Image Colloquium, University of Greenwich, London, UK

Math, Music, and Visual Arts: some examples of connection, June 21 2017, RIEC, Tohoku University, Sendai, Japan

Composition and Orchestration Revisited. Musical Gestures as a Bridge between Scores and Acoustics, Composers' Rostrum, May 17 2017, Conservatory of Palermo, Italy

Math helps Art, Art helps Math, Northern Kentucky University, USA, April 14 2017

Lecture & Recital, *Mathematics and Music: an Italian Perspective*, University of Minnesota, in collaboration with the Italian Cultural Center of Minneapolis & St. Paul, USA, March 29 2017

Mathematical Theory of Gestures to Connect Music and Visual Arts, Spring Symposium 2017, Music and Sound Studies Group, University of Minnesota, USA, March 25 2017

Theoretical Physics and Category Theory as Tools for Analysis of Musical Performance and Composition, Joint Mathematics Meetings, Special Session on Mathematics and Music, Atlanta, USA, January 6 2017

The Pianist's hand, the Conductor's Baton, and Theoretical Physics: The Paradigm of String Theory in Musical Gestures of Performance and Composition, Interdisciplinary Doctoral Fellowship Seminar, March 2 2016, University of Minnesota, USA, and Poster (May 6)

(signed also by G. Mazzola), *Physical String Theory for Creative Gestural Performance and Composition in Music*, International Conference on Musical Gesture as Creative Interface, March 2016, Porto, Portugal

The Hand of the Pianist, the Baton of the Conductor, and Theoretical Physics: The Paradigm of String Theory in Musical Gestures of Performance and Composition, Conservatory of Palermo, Italy, July 2 2015

A new approach to Musical Performance and Composition: Complex Time connecting Symbolic and Physical Reality, University of Palermo, Italy, June 29 2015

(with prof. Guerino Mazzola) "*Hypergestures in Complex Time: Creative Performance between Symbolic and Physical Reality*", MCM 2015 Conference, Queen Mary University of London, UK, June 24 2015

Complex Time in Music: Connecting Symbolic and Physical Reality in Creative Performance, University of Palermo, Italy, May 27 2015

Complex Time in Music: Connecting Symbolic and Physical Reality in Creative Performance, Music and Sound Studies Graduate Student Colloquium, University of Minnesota School of Music, Minneapolis, USA, April 24 2015

Physics, Mathematics, Music, Visual Arts: a possible link among different subjects, in the project of *Concerts-Laboratories 2012*, Istituto Superiore di Studi Musicali "Arturo Toscanini," Ribera (AG) Italy, March 6 2012

Forms and mathematical functions as a link between the visual arts and music: a hypothesis of partial reversibility, May 7 2009, National Congress *National Composition Music Architecture*, Music Conservatory "V. Bellini," Faculty of Engineering and Faculty of Architecture, Palermo, Italy, May 6-9 2009

Posters

An Application of Category Theory to the Orchestra. Applied Category Theory (ACT) 2020, MIT, 2020, USA (online)

HyperCubeHarmonic: a Frontier of Music and 3D Magnetic Motion Tracking System. In collaboration with E. Kitamura, J. Huang, R. Sugawara, P. Chiu, and Y. Kitamura. RIEC Annual Meeting (preparation of the poster only), February 20, 2020, Sendai, Japan

Natura, Immagini e Musica: un dialogo matematico. February 17-23 2020, PalermoScienza 2020, Palermo, Italy

Mathematical theory of musical gestures, gestural similarity, and psychology: a first validating experiment, in collaboration with T. Collins, D. Hsu, D. Papageorgiou, September 28 2018, WiMIR First Workshop, Télécom Paris Tech, France (Skype participation)

CubeHarmonic: A New Interface from A Magnetic 3D Motion Tracking System to Music Performance, in collaboration with E. Kitamura, J. Huang, R. Sugawara, and Y. Kitamura, June 2018, Virginia Tech, USA

Mathematics, Art, and Cognitive Sciences: some examples of connection, *Conference of the International Journal of Arts and Sciences*, University of Catania, Italy, May 29 2017, plus lecture

Musical Gestures between Scores and Acoustics: A Creative Application to Orchestra, "Doctoral Research Showcase, April 11, 2017

Musical Gestures between Scores and Acoustics: A Creative Application to Orchestra, Council of International Graduate Students Research Showcase, November 28, 2016

and Sound Studies Graduate Student Colloquium, University of Minnesota School of Music, Minneapolis, April 24 2015

The Pianist's Hand, the Conductor's Baton, and Theoretical Physics: The Paradigm of String Theory in Musical Gestures of Performance and Composition, Interdisciplinary Research Showcase, April 2016

Can the Mathematics transform Music into Images and Images into Music? in the manifestation *Esperienza InSegna 2011*, Polo didattico dell'Università degli Studi di Palermo (Italy), 2011

Review of Scientific Articles

- Invited reviewer for *Computers & Education*, 2020
- Invited reviewer for *Nuova Lettera Matematica*, 2020
- Invited reviewer for the *WORKS Journal*, 2020
- Invited reviewer for the *Journal of Mathematics and Music*, 2020
- Invited reviewer for the *Collected papers of the Academy of Novi Sad*, 2020
- Invited reviewer for the conference *AudioMostly 2020*
- Invited reviewer for *zbMath* (post publication review), 2020
- Invited reviewer for *Personal and Ubiquitous Computing*, 2020
- Invited reviewer for *IEEE Transactions on Audio, Speech, and Language Processing*, 2019
- Invited reviewer for the *Journal of Mathematics and Music*, 2019
- Invited reviewer for the *WORKS Journal*, 2019
- Invited reviewer for the conference *AudioMostly 2019*
- Invited reviewer for the *International Journal of Human-Computer Studies*, 2019
- Invited reviewer for the conference *MCM 2019*; participation in the Scientific Committee
- Invited reviewer for the *Journal of Mathematics and Music*, 2018
- Invited reviewer for the conference *MCM 2017*; participation in the Scientific Committee
- Invited reviewer for the conference *TENOR 2016*

Graphics and Drawings

- **Cover (book)** F. Favali and M. Mannone, "Simmetrie fra Matematica e Musica"
- **Artwork** at the Mathematical Art Gallery (Bridges 2020 online), "Duality"
- **Artwork** at the Mathematical Art Gallery (JMM 2020 Denver), "Fish Math"
- **Cover (book)** M. Mannone, "Mathematics, Nature, Art"
- **Artwork** at the Mathematical Art Gallery (JMM 2018 San Diego), "Parametric Still Life"
- **Cover (book)** "Theoretical and Practical Pedagogy of Mathematical Music Theory" (editors M. Montiel and F. Gómez)
- **Cover (book)** "Mathematical Music Theory: Algebraic, Geometric, Combinatorial, Topological and Applied Approaches to Understanding Musical Phenomena" (editors M. Montiel and R. W. Peck)
- **Cover (book)** G. Mazzola et al., "Cool Math for Hot Music"
- **Cover (book)** G. Mazzola et al., "All About Music"
- **Cover (book)** M. Mannone, "Dalla Musica all'Immagine, dall'Immagine alla Musica"

Invited research visits

- Research Studios Austria Forschungsgesellschaft, Salzburg, Austria, January 2020
- Fondazione Cini, Isola di San Giorgio, Venezia, Italy, November 2019
- Tohoku University, Research Institute of Electrical Communication, Sendai, Japan, February 2019
- University of Greenwich, London, UK, October 2018
- Queen Mary University of London, London, UK, October 2018
- Open University, Milton Keynes, UK, October 2018

- Goldsmiths University, London, UK, January 2018
- Tohoku University, Research Institute of Electrical Communication, Sendai, Japan, November 2017
- Tohoku University, Research Institute of Electrical Communication, Sendai, Japan, June 2017
- Northern Kentucky University, Math Department, USA, April 2017

Teaching

Workshop “Chi ha collegato la matematica alla musica?”, Ca’ Foscari, Venezia-Mestre (online), July 8, 2020

Cycle of seminars “SUONI, GESTI, DIAGRAMMI: relazione tra saperi diversi per una musica che è cultura e sapere complesso” (Sounds, Gestures, Diagrams: Relations between different knowledge areas for a music that is complex knowledge) Music Conservatory of Palermo, February 2020 - in progress

MasterClass “Suoni, Gestì, Diagrammi,” Matera Music Conservatory, October 21-22, 2019

Co-supervisor of the **Bachelor** thesis “Gruppi Diedrali e Simmetrie Tonalì: un Dialogo fra Matematica e Musica,” Department of **Mathematics** and Informatics, University of Palermo, March-October 2019

Workshop “Chi ha collegato la matematica alla musica?”, Ca’ Foscari, Venezia-Mestre, June 25, 2019

MasterClass “Suoni, Gestì, Diagrammi,” Livorno Music Conservatory, April 2-3, 2019

Cycle of seminars “SUONI, GESTI, DIAGRAMMI: relazione tra saperi diversi per una musica che è cultura e sapere complesso” (Sounds, Gestures, Diagrams: Relations between different knowledge areas for a music that is complex knowledge) Music Conservatory of Palermo, November 2018 - March 2019

“*Nature, Music, Maths, Coding (Composing Sound to Image)*,” 3-hour lesson in “Creative Coding” class (workshop with the students), see Lectures, University of Greenwich, October 5 2018

Italian Coaching for Opera singers for “Gianni Schicchi” and “Suor Angelica,” Spring 2017

Substituting teaching Italian Diction Class, University of Minnesota School of Music, April 2017

Substituting teaching Orchestration Class, University of Minnesota School of Music, November 2016

Substituting teaching “How to Write a Scientific Book about Music,” University of Minnesota School of Music, February and March 2016

Substituting teaching “Performance Theory,” University of Minnesota School of Music, February and March 2016

Substituting teaching “Music Informatics,” University of Minnesota School of Music, February and March 2016

Teaching-assistantship as Italian coach for Opera Workshop, Fall 2015 and Spring 2016

Teaching-assistantship as Italian coach for Opera singers in “Le Nozze di Figaro,” University of Minnesota School of Music, Minneapolis, Spring 2015

Substituting teaching “Mathematics for Music Theorists,” University of Minnesota School of Music, September 2015

Teaching-assistantship (TA) at University of Minnesota School of Music, Contemporary Music Workshop, Fall 2014

Private piano class in Paris (as volunteering), also to a child affected by autism (2013-14)

Teaching in the course of *The theory, the listening, the analysis, the history of music* in the project *Sounds, gestures, words of women and men, a bridge in the Mediterranean Sea*, Liceo Classico Statale "G. Meli," Palermo (Italy), 2011

Composition Teaching-Assistantship, Music Conservatory "Vincenzo Bellini," Palermo (Italy), 2009-2011

Piano Teaching-Assistantship, Music Conservatory "Vincenzo Bellini," Palermo (Italy), 2008-2010

Selected Performances of Compositions

Recording: "Mirrors" for flauto d'amore solo, "Creativity Quarantine," BandCamp release, <https://flautodamoreproject.bandcamp.com/releases>

Orchestra Sinfonica Siciliana at Teatro Politeama Garibaldi in Palermo (Italy), November 25 2013, composition "Santa Rosalia"

Accademia Musicale Chigiana in Siena (Italy), 24 August 2010, film music *Tredici variazioni sul tema*, new score for an existing movie

Festival delle *Orestiadi* di Gibellina (Italy), June 27 2013, composition "Seule"

Arts Quartier Festival, University of Minnesota, October 5 2016: Projection of the movie "Paris, La Ville Pulsante" (with original music, drawings and photographs)

Selected Experiences as a Musical Performer

Piano improvisation on a poetry reading of Pessoa and live sound streams, "Physically Distant #2, more online talks on telematic performance," Female Laptop Orchestra, July 28, 2020

"Klein Concert: Five Compositions on a Geometric Shape", presentation and participation with conducting. May 31, 2019, Music Conservatory of Palermo, Italy

Piano playing at the Italian Cultural Center in Minneapolis, during a Consular Event, November 14, 2016 (performance of Italian classic and modern repertory, as well as my original music)

Concert (participation): *Collage Concert* of the School of music of the U of M, October 29, 2016 (piano playing of an original piece)

Concerts (participation): *Music of Today*, Composition recital of students of prof. Alex Lubet, University of Minnesota, Minneapolis, May 2 2015, November 7 2015, April 29 2016, December 5 2016, April 29 2017

Concert (participation), *Contemporary Music Workshop presents: the music of C. Cardew*, University of Minnesota, Minneapolis, December 9 2014

Stages, Courses, Master Classes attended

Stages *Open Music*, IRCAM, Paris (France), Computer assisted composition, 2012-13, Prof. M. Malt, Just. Bresson, G. Lorieux

Stage in the Music Conservatory of Palermo (Italy), mathematical and physical techniques applied to the musical analysis, 2010-2011, Prof. M. Betta

Master Class in Composition, Livorno (Italy), 2011, Prof. Sir P. Maxwell Davies

Master class in Orchestral Conducting Technique, Palermo (Italy), 2011, Prof. E. Nicotra

Advanced course in Film Music Composition, Accademia Musicale Chigiana, Siena (Italy), 2010, Prof. L. Bacalov

Master Classes in Orchestral Conducting, Palermo (Italy); 2009 Prof. L. Marosi, 2010 and G. Yaslicam

Course of Scientific Illustration, Academy of Fine Arts, Palermo (Italy), 2009, Prof. G. Benenati

Seminar "Physics of the Music," Department of Physical and Astronomic Sciences of the University, Palermo (Italy), 2006, Prof. A. Panicola

Languages

French: level C1 (DALF 69/100);

English: current English level C1; SETTA exam (Spoken English for Non Native Speakers): level 1 (highest);

Italian: native speaker;

Latin and Ancient Greek: high school knowledge

Other Activities and Hobbies

Volunteering at Hôtel des Invalides in Paris (France), with the Malta Order. Listening, conversation and visits to museums for old people and invalid by war, February-May 2014, Paris, France

Drawing, Flute playing, Theremin playing, Yoga, Rowing