

1. Record Nr.	UNINA9910337560903321
Titolo	Mathematics and Computation in Music : 7th International Conference, MCM 2019, Madrid, Spain, June 18–21, 2019, Proceedings // edited by Mariana Montiel, Francisco Gomez-Martin, Octavio A. Agustín-Aquino
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-21392-7
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XII, 399 p. 283 illus., 51 illus. in color.)
Collana	Lecture Notes in Artificial Intelligence ; ; 11502
Disciplina	780.285 781.0151
Soggetti	Application software Artificial intelligence Algorithms Music Computer Appl. in Arts and Humanities Artificial Intelligence Algorithm Analysis and Problem Complexity
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Plenary talks -- Contrapuntal Aspects of the Mystic Chord and Scriabin's Piano Sonata No. 5 -- ComMute—Towards a Computational Musical Theory of Everything -- Algebraic and other Abstract Mathematical Approaches to Understanding Musical Objects -- Groupoids and Wreath Products of Musical Transformations: a Categorical Approach from poly-Klumpenhouwer Networks -- Fourier Phase and Pitch-Class Sum -- Categories, Musical Instruments, and Drawings: A Unification Dream -- Tropical Generalized Interval Systems -- Shall we (math and) dance? -- Special Session: Remanaging Riemann: Mathematical Music Theory as "Experimental Philology"? -- Decontextualizing Contextual Inversion -- From Schritte and Wechsel to Coxeter Groups -- Exploring the Syntonic Side of Major-Minor Tonality -- Embedded Structural Modes: Unifying Scale Degrees and Harmonic Functions -- Non-Contextual SQZ Transformations -- The Hierarchy of Rameau Groups

-- Distance Diatonic Neighbors and Inter-Diatonic Shortcuts? --
Constraint-Based Systems of Triads and Seventh Chords, and
Parsimonious Voice-Leading -- Octave Division -- Distributional
Analysis of n-dimensional Feature Space for 7-note Scales in 22-TET
-- Filtration of pitch-class sets complexes -- Computer-based
Approaches to Composition and Score Structuring -- Synthesizer:
physical modelling and machine learning for a color-based synthesizer
-- Mercury ®: A software based on fuzzy clustering for computer-
assisted composition -- A Parse-based Framework for Coupled Rhythm
Quantization and Score Structuring -- Reinterpreting and extending
Anatol Vieru's Periodic Sequences through the Cellular Automata
formalisms -- Models for Music Cognition and Beat Tracking --
Surprisal, liking, and musical affect -- Autocorrelation of Pitch-Event
Vectors in Meter Finding -- The Envelopes of Consonant Intervals and
Chords in Just Intonation and Equal Temperament -- Maximally Even
Tilings -- Short Papers -- Distributed Vector Representations of
Folksong Motifs -- Visualizing Temperaments: Squaring the Circle? --
Music corpus analysis using unwords -- Maths, Computation and
Flamenco: overview and challenges -- Formalization of Voice-Leadings
and the Nabla Algorithm -- Computational Music Therapy -- Special
Session on the Pedagogy of Mathematical Music Theory -- Insiders'
Choice: Studying Pitch Class Sets through their Discrete Fourier
Transformations -- Have Fun with Math and Music! -- Teaching Music
with Mathematics: a Pilot Study -- Integrated Music and Math Projects
in Secondary Education.

Sommario/riassunto

This book constitutes the thoroughly refereed proceedings of the 7th International Conference on Mathematics and Computation in Music, MCM 2019, held in Madrid, Spain, in June 2019. The 22 full papers and 10 short papers presented were carefully reviewed and selected from 48 submissions. The papers feature research that combines mathematics or computation with music theory, music analysis, composition, and performance. They are organized in topical sections on algebraic and other abstract mathematical approaches to understanding musical objects; remanaging Riemann: mathematical music theory as “experimental philosophy”?; octave division; computer-based approaches to composition and score structuring; models for music cognition and beat tracking; pedagogy of mathematical music theory. The chapter “Distant Neighbors and Interscalar Contiguities” is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.
