

Preface

The 6th Biennial International Conference for Mathematics and Computation in Music (MCM 2017) took place during June 26–29, 2017, at the Faculty of Sciences of the Universidad Nacional Autónoma de México, in Mexico City, Mexico. Additional venues for recitals were kindly provided by the Escuela Superior de Música and the Museo Nacional de Historia “Castillo de Chapultepec”.

As the flagship conference of the Society for Mathematics and Computation in Music (SMCM), MCM 2017 provided a dedicated platform for the communication and exchange of ideas among researchers in mathematics, informatics, music theory, composition, musicology, and related disciplines. It brought together researchers from around the world who combine mathematics or computation with music theory, music analysis, composition, and performance.

The program is available at <http://www.mcm2017.org> and featured three plenary lectures: the first by Guerino Mazzola (who introduced the *musical mathematical game* as a complement to the *mathematical music theory*), the second by Harald Friepertinger (who spoke on the combinatorics of tone-rows and their role in music), and a final one by Julio Estrada (who described some of the mathematical tools and inspirations that underlie his compositions).

There was a panel titled “Contemporary Music Composition in Relation to Mathematics and Computing: Current Perspectives and Approaches”, with the participation of four Mexican composers: Juan Sebastián Lach (Conservatorio de las Rosas), Roberto Morales-Manzanares (Universidad de Guanajuato), Gabriel Pareyón (CEN-IDIM), and Edmar Soria, which was a valuable firsthand testimony of the fruitful interplay of the mathematical and computational approaches in the creation of music.

During three daily one-hour sessions, Octavio Alberto Agustín-Aquino (a member of the Organizing and Scientific Program Committee) delivered a “nano-course” on Guerino Mazzola’s mathematical music theory, whose intent was to serve both as an homage to the current SMCM president and to introduce to an audience as wide as possible the techniques, results, and philosophical postures contained in Mazzola’s work, with an emphasis on counterpoint.

The program included three evening recitals. The first was a guitar recital by Octavio Alberto Agustín-Aquino, who visited musical landscapes from eight countries (four from Europe and four from America) in a travelling salesman route, while keeping the proportion of the durations in approximate correspondence to that of the landmasses of the continents. The second one was a free jazz recital by Heinz Geisser (drums) and the president of the SMCM, Guerino Mazzola (piano), in the auditorium of the Escuela Superior de Música, which constituted an electrifying dialogue of gestures and mutual spaces of performance. The third one was performed by Harald Friepertinger (flute) and the head of the Organizing and Scientific Program Committee, Emilio Lluís-Puebla (piano), featuring music from Telemann, Beethoven, Schubert,

Gant, Marsh, and Thomas, in the wonderful environment of the *Alcázar* of the Museo Nacional de Historia “Castillo de Chapultepec”, as a pure enjoyment of music, mathematics, and life.

The chapters in these proceedings correspond to the papers and two selected posters presented at the conference, following a careful peer-review process, which was optionally double-blind. We received 40 submissions from 62 authors across 10 countries. Each submission was assigned to one or two reviewers. A paper was accepted if and only if the recommendation of the reviewers was positive and a majority of the editors judged it a meritorious contribution; sometimes it required a second round of revisions. A total of 28 papers were accepted following review.

Last, but not least, we thank the following institutions for providing their infrastructure and human resources for the organization and promotion of MCM 2017:

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- Society for Mathematics and Computation in Music
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- Georgia State University
- Museo Nacional de Historia
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