

I. President's Foreword



Dear members and friends of the Society,

We are now ten years after the foundational SMCM conference in Berlin 2007. We are a flourishing community in terms of publications, scientific results, and educational weight. For this state of the art I want to express my deep gratitude to all members and friends of our Society.

It is my great pleasure to announce the 6th Biennial international Conference on mathematics and Computation in Music, June 26-29 at the UNAM (see sec. 4) in Mexico, and especially the conference's spiritus rector Emilio Lluís-Puebla, who has played a significant role in the success history of our Society. My best wishes go to the engaged organizers of this important event.

I also want to urge all active maMuTh scholars to contribute to our Journal of Mathematics and Music (JMM), which has been edited with maximal energy and professionalism by Thomas Fiore and Clifton Callender. Thank you so much!

Let me once again terminate this foreword with a more philosophical observation. In the US schools of music, where I am working, I have observed an increasing frustration and sorrow of young composer students with regard to the vector of future compositions. The general atmosphere is that everything has been done, all directions and methods of creative efforts in musical composition have been tested. My impression is that this crisis of creativity could be terminated provided we offer the students sufficient powerful tools of creativity. In fact, a vanishing percentage of possible interesting musics has been created so far. There are at least three types of such tools that come to my mind: (1) deeper instruction in music technology for analysis and composition; (2) the thorough education in precise and efficient MaMuTh; (3) the fusion of improvisational gestural approaches with classical compositional techniques.

In this sense, I wish us all the best in the integration of our high-level insights within the broad display of musical education.

Guerino Mazzola
President, SMCM

2. Membership Renewal and Treasurer's Report

This is a gentle reminder to renew your society membership and your subscription to *Journal of Mathematics & Music*. The yearly dues are \$50, or \$90 for two years. To renew, go to <http://www.smcm-net.info/registration.html>. If there are any subscription issues, please write me at: clampitt.4@osu.edu.

As of June 23, 2017, the Society has 42 members and a balance of \$7,560.31.

David Clampitt

Treasurer, SMCM

3. The Journal of Mathematics and Music: Special Issues and New Article Types

The Journal of Mathematics and Music calls for August 2017 submissions to a 2018 Special Issue on Topology and Geometry in Music. Please submit your manuscript in the usual way via the online system, select the special issue title, and also mention the special issue in the textbox note to the editors.

The 2016 Special Issue "Machine Learning and Music Generation," guest edited by Jose Iñesta, Darrell Conklin, and Raphael Ramirez, and also edited by Thomas Fiore, has sparked much interest. It contained 5 papers by Kirilin-Yust, Kosta-Ramirez-Bandtlow-Chew, Conklin, Ponce de Leon-Inesta-Calvo-Zaragoza-Rizo, and Giraldo-Ramirez. An Editorial by the Guest Editors opened the issue.

The topic for the 2019 Special Issue is open. Please send us your proposals for the 2019 Special Issue as soon as possible. Top papers selected from a small conference or workshop, then fully refereed at the journal, could form a Special Issue. Truly excellent long manuscripts could also be considered as a Special Issue.

There is no 2017 Special Issue. All ordinary 2017 issues of JMM are delayed by several months.

The Journal of Mathematics and Music calls for submissions of new article types: Research Notes, Survey Articles, Article Reviews, Conference Summaries, and Conference Announcements. Until recently, the Journal of Mathematics and Music has only published full length Research Articles, Editorials, and Book Reviews. Now we are broadening the spectrum to include the abovementioned new publication types as well.

The new publication type Article Review is inspired by the long mathematical tradition cultivated by Zentralblatt (now called zbMATH) and Mathematical Reviews (online MathSciNet). An 1- or 2-page article review summarizes the main results, cites related work, may position the article in the related literature, kindly points out any major errors, and generally helps readers to more quickly read the reviewed article. Article reviews are usually not a critique of the article. Other objectives of article reviews are: to assist newcomers in their navigation of the literature, to speed the incorporation of new ideas, to showcase the classic texts of our field, and to generally cultivate the body of knowledge concerning mathematical music theory. Reviews of JMM articles are especially welcome in JMM, but

reviews of any relevant articles in the field will be considered. For examples of article reviews, see on MathSciNet Thomas Fiore's reviews of Thomas Noll's publications "The topos of triads" and "Musical intervals and special linear transformations." As before, book reviews should be submitted to the Book Reviews Editor Jon Wild, but article reviews should be submitted on the journal website to the Editors-in-Chief.

The new publication type Survey Article is inspired by surveys in the Bulletin of the American Mathematical Society and in similar journals of other professional societies. A survey article could for example be the accompanying text of a mini-course or invited address.

Other article types may also be proposed to the Editors-in-Chief for consideration, such as mathematical puzzles, or a "What is...?" series akin to the "What is..." series in the Notices of the American Mathematical Society.

Please send us your excellent manuscripts, and recommend the journal to your colleagues, both as authors and readers. We look forward to any feedback on the journal. As always, we thank authors, referees, and editors for maintaining the high quality of the journal.

Thomas Fiore and Clifton Callender
Co-Editors in Chief, *Journal of Mathematics and Music*

4. The Society's Next Biennial Conference

The **6th Biennial International Conference on Mathematics and Computation in Music** will be held June 26-29, 2017 at Universidad Nacional Autónoma de México (UNAM), Mexico City, México. The organizing committee is comprised of Guerino Mazzola (University of Minnesota), Emilio Lluis-Puebla (UNAM), Octavio A. Agustín-Aquino (Universidad de la Cañada), Mariana Montiel (Georgia State University), Gabriel Pareyón (CENIDIM-INBA), Roberto Morales-Manzanares (U. de Guanajuato), Emil Awad (U. Veracruzana), Juan Sebastián Lach (Conservatorio de las Rosas)--Details available at: <http://www.mcm2017.org/>.

Monday June 26th

9:15-9:45 Opening Session

- Guerino Mazzola
- Emilio Lluis-Puebla
- Octavio Alberto Agustín Aquino

9:45-10:45 Plenary Talk

- Guerino Mazzola *Mathematical Music Theory and the Musical Math Game*

10:45-11:00 Coffee break

11:00-12:00 Contributed Talks

- Kevin Hobby, William A. Sethares and Zhenyu Zhang *Using Inharmonic Strings in Musical Instruments*
- Jess David Gmez-Tllez, Emilio Lluis-Puebla and Mariana Montiel *A Symmetric Quantum Theory of Modulation in Z20*

11:00-12:15 Mazzola's MaMuTh (nanocourse by O. A. Agustín Aquino)

12:00-12:30 Poster Session

- Erik Baqueiro Victorín
- Marcus Booth
- Jonathan Califa
- Patricio Calatayud
- Noah Jordan
- Joel Michelson, Hong Xu, and Phillip B. Kirlin
- Daniel Moreira

12:30-2:00 Panel

- Juan Sebastián Lach, Roberto Morales Manzanares, Gabriel Pareyón and Edmar Soria *Contemporary Music Composition in Relation to Mathematics and Computing: Current Perspectives and Approaches*

17:00-18:15 Editorial Board Meeting of the *Journal of Mathematics and Music*

18:30-19:30 "Latin&American" Recital

- Octavio Alberto Agustín Aquino, *guitar*

Tuesday, June 27th, 2017

9:00-10:00 Plenary Talk

- Harald Friepertinger *On All-Distances-Twice Tone Rows*

10:00-11:00 Contributed Talks

- Robert W. Peck *Almost Difference Sets in Transformational Music Theory*
- Emmanuel Amiot *Strange Symmetries*

11:00: Coffee break

11:15-13:45 Contributed Talks

- Bruno Mesz, Augusto Paladino, Juan Prgola and Pablo Amster *The Evolution of Tango Harmony, 1910-1960*
- Christopher Wm. White *Cross Entropy as a Measure of Coherence and Uniqueness*
- Brayan Rodriguez, Ral Gutierrez de Pirez and Gerardo M. Sarria M. *Using Probabilistic Parsers to Support Composition in Salsa Music*
- Cristian Baelos and Felipe Ordua *Dynamic Time Warping for Automatic Musical Form Identification in Symbolical Musical Files*
- David Clampitt and Thomas Noll *Pairwise Well-Formed Modes and Transformations*

11:00-12:15 Mazzola's MaMuTh (nanocourse by O. A. Agustín Aquino)

18:00-19:30 "Imaginary Time for Real Music" Recital

- Guerino Mazzola, *piano*
- Heinz Geisser, *drum & percussion*

Wednesday, June 28th, 2017

10:00-11:00 Contributed Talks

- Sonia Cannas, Samuele Antonini and Ludovico Pernazza *On the Group of Transformations of Classical Types of Seventh Chords*

- Daniel Tompkins *A Cluster Analysis for Mode Identification in Early Music Genres*
- Emmanuel Amiot *Interval Content vs DFT*
- Juan Sebastian Arias Valero *Abstract Gestures*

11:00-11:15 Coffee break

11:00-12:15 Mazzola's MaMuTh (nanocourse by O. A. Agustín Aquino)

11:15-13:45 Contributed Talks

- Liduino Pitombeira *Determination of Compositional Systems through Systemic Modeling*
- Jason Yust *Probing Questions About Keys*
- Grgoire Genuys and Alexandre Popo *Homometry in Dihedral Groups*
- Brian Martnez and Vicente Liern *A Fuzzy-Clustering Based Approach for Measuring Similarity Between Melodies*
- Giovanni Albini and Marco Paolo Bernardi *Hamiltonian Graphs as Harmonic Tools*

17:45-19:45 Visit to Museo Nacional de Historia (Chapultepec Castle)

19:45-21:00 Lluís-Puebla's Beethoven Cycle Recital

- Harald Friepertinger, *flute*
- Emilio Lluís-Puebla, *piano*

Thursday, June 29th, 2017

9:00-11:00 Contributed Talks

- Emmanuel Amiot, Jean-Philippe Lerat, Brenger Recoules and Vlerie Szabo *Developing Software for Dancing Tango in Comps*
- Franck Jędrzejewski *New Investigations in Rhythmic Oddity*
- Clifton Callender *Complementary Collections and Ligeti's Combinatorial Tonality*
- Francis Knights, Pablo Padilla and Dan Tidhar *Identification and Evolution of Musical Style*

11:00-11:15 Coffee break

11:15-12:45

Marek Zabka *Algebra of Harmony*

Pedro Louzeiro *Real-Time Compositional Procedures For Mediated Soloist-Ensemble Interaction*

Corentin Louboutin and Frédéric Bimbot *Polytopic Graph of Latent Relations*

12:45-13:45 Plenary Talk

Julio Estrada *The Physical Musical Space, Fix or Mobile, Bi- and Tridimensional*

20:00 Farewell dinner at Radisson

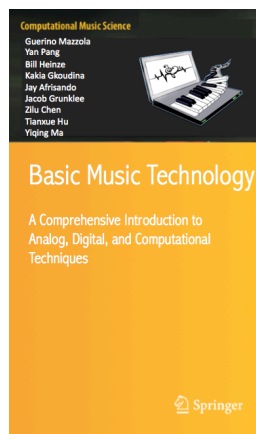
5. News

Moreno Andreatta has been appointed as CNRS Director of Research at IRCAM and has obtained a fellowship from the University of Strasbourg Institute of Advanced Studies (USIAS) for a research project entitled « Structural Music Information Research (SMIR): introducing algebra, topology, and category theory into computational musicology ». Within this 2-years project, two one-year positions - one post-doctoral and one research-engineering - will be available starting respectively from September 2017 and January 2018. An official call is under preparation but potential candidates are invited to informally contact the PI for more information about the project (Moreno.Andreatta@ircam.fr).

David Clampitt will give an invited lecture at WORDS2017 (UQAM) Sept. 11-15 in Montreal, the biennial conference on algebraic combinatorics on words. There may be other papers with mathematical music theory content.

Guerino Mazzola (piano) performed on six concerts in Tokyo and Yokohama from 4/16/17 to 4/22/17 with drummers Heinz Geisser and Shiro Onuma, violinist Naoki Kita, singer Yuki Saga, and e-guitarist Takayuki Kato. The concerts will be published in three CDs.

Guerino Mazzola's book "Basic Music Technology", to be published in the Springer Computational Music Science series (Fall 2107) with eight students as co-authors. The second edition of "The Topos of Music", with 500 additional pages on musical gesture theory, adding up to 1700 pp., to be published in the Springer Computational Music Science series Fall 2107. The new material is written with six co-authors.



Anja Volk has been co-organizing the second round of the Women in MIR mentoring program in 2017, with 50 mentors and mentees from diverse fields such as machine learning, computer music, computer science, mathematics, music theory, computational musicology, music perception and cognition, composition, computational neuroscience, digital media, and information science. For more information see <https://wimir.wordpress.com/mentoring-program/>.

About Us

The Society for Mathematics and Computation in Music (SMCM) was founded in 2006 as an international forum for researchers and musicians working in the trans-disciplinary field at the intersection of music, mathematics and computation. The SMCM is registered in the USA. At its inaugural meeting in Berlin, on May 20, 2007, 13 board members were elected, from which were selected the officers for the society. The official website of the Society can be found at www.smcm-net.info.

To become an accredited individual SMCM member, please visit our online registration form at www.smcm-net.info/registration.html. Membership includes a print subscription to the Journal of Mathematics and Music, the SMCM's official journal. For full information on the Journal of Mathematics and Music, a publication by Taylor & Francis, including manuscript submission instructions, library subscription options, details on free email alerting services, editorial board information and the online edition, please visit its homepage at www.informaworld.com/JMM.

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