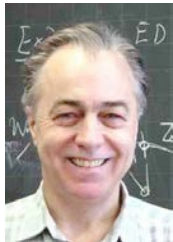


I. President's Foreword



Dear members and friends of the Society,

This introduction to the fifth Newsletter of the Society is first and foremost an expression of deep gratitude for continuity in our initiative and for excellent accomplished work. Thomas Noll and Robert Peck succeeded in establishing highly professional management for the Journal of Mathematics and Music (JMM), a strong and prosperous pillar of this Society. Their work as co-editors of the JMM has ended and we are very happy to have found equally qualified successors: Thomas Fiore, Assistant Professor at the Department of Mathematics and Statistics, University of Michigan–Dearborn, and Marek Žabka, Assistant Professor of Musical Theory at Comenius University, Bratislava. Let us warmly welcome them with all the respect that their positions occasion. At the same time, our creative and efficient secretary Elaine Chew has moved to London and has stepped down as secretary for the society, thank you so much, Elaine, great job for this young society! We are proud to have a highly qualified successor as secretary, Johanna C. Devaney, Assistant Professor of Music Theory and Cognition, School of Music at the Ohio State University. Thank you, Johanna, and welcome to your new role, of which this Newsletter is the first evidence of your activity. The fourth change in the Society's administration relates to our treasurer. Our first treasurer, Ian Quinn, also needed a release of duties. Thank you so much, Ian, for having covered this important financial role in our organization. We are happy to have found a perfect successor, David Clampitt, Associate Professor for Theory and Composition at the School of Music of Ohio State University. Thank you so much, David, and welcome to your new role. I believe it is appropriate to thank these scholars for their superb engagement in the name of our Society. They allow us to experience continuity, which is vital for the society.

Continuity is also evident from the Society's two publication series JMM and Computational Music Science (CSM). Besides the remarkable level of scientific quality of papers, we have published a special JMM volume as a follow-up of their acclaimed Paris 2011 SMCM conference panel with Geraint A. Wiggins, Guerin Mazzola and Alan Marsden: "Mathematical and Computational Approaches to Music Theory, Analysis, Composition and Performance" edited by Anja Volk and Aline Honingh. We are now in a state of transition from being a rather exotic group of scholars and musicians to a community that is firmly embedded in the normal academic environment. Such initiatives are the best tool to push this transition to its goal. In this spirit I also welcome Mariana Montiel's panel at the 2013 SMCM conference on the future role of Mathematical Music Theory in Music, Mathematics, and Computer Science Departments. The CSM series, co-edited by Moreno Andreatta and Guerin Mazzola, is about to publish

volumes five ("The Language of Western Tonality" by Eytan Agmon) and six ("Mathematical Theory of Counterpoint" by Octavio Alberto Agustín Aquino, Julien Junod, and Guerin Mazzola).

Of course, our next big event is the Montreal SMCM 2013 conference, June 12-14, at McGill University. We are extremely pleased by the very professional organizational work which has been performed by Jon Wild (chair), Jason Yust, (program chair), Fabrice Marandola, (concert organizer), Ichiro Fujinaga, and Christoph Neidhöfer. Springer will again publish the conference proceedings. We look forward to a wonderful meeting in Canada's beautiful city of Montreal!

Continuity is also present when looking to the future. From November 26-29, 2014 the International Congress on Music and Mathematics will be held in Mexico's Puerto Vallarta, which the SMCM will co-organize with major Mexican organizations. The conference flyer is included in this Newsletter. This event not only covers scientific talks and panels, but also extends to concerts, a topic that I have always stressed: the desperate need more musical compositions that act as evidence of our theories to a music audience.

I wish you continuation of all the curiosity and power we have experienced since the Society's birth in 2007 and lots of vibrations of those hidden strings which move the universe. Thank you all for your efforts and enthusiasm.

Guerin Mazzola
President, SMCM

2. Membership Renewal

This is a gentle reminder to all to renew your society membership. The normal annual individual membership fee is US\$50, and includes a print subscription to the Journal of Mathematics and Music (JMM). Issue 7/1 will appear very soon. Registrations and renewals are processed at the following website: www.smcm-net.info/registration.html.

David Clampitt
Treasurer, SMCM

3. The Journal of Mathematics and Music

The Journal of Mathematics and Music has several new developments to report. Thomas Noll and Robert Peck, co-founders of the Society and Journal, are moving on to other projects after 8 years as co-editors in chief at the Journal of Mathematics and Music. After their election in 2004, they took the ambitious lead in the creation and cultivation of the Journal, and produced Volumes 1 - 6 (2007 - 2012) in collaboration with Taylor & Francis. We thank Thomas and Bob for their many long-lasting contributions to the Journal and our field in this

capacity. The Editorial Board elected us, Thomas Fiore and Marek Žabka, as the new co-editors in chief in November 2012. Issue 1 of Volume 7 has appeared, and Issue 2 will be a special issue featuring articles on voice leading. We thank the outgoing Reviews Editor Julian Hook, and welcome the new Reviews Editor Jon Wild. Please send us your feedback, especially ideas for future special issues, or any problems receiving your issues.

Thomas Fiore and Marek Žabka
Co-Editors, *Journal of Mathematics and Music*

4. The Society's Next Biennial Conference

The **4th International Conference on Mathematics and Computation in Music** (MCM 2013) will be co-hosted by the Schulich School of Music and the Center for Interdisciplinary Research in Music Media and Technology (CIRMMT) at McGill University in Montreal, Canada from Jun 12–14. The organizing committee is comprised of Jonathan Wild (Conference Chair), Jason Yust (Program Chair), and Fabrice Marondola (Concert Organizer), as well as Ichiro Fujinaga and Christoph Neidhöfer (Local Advisory Committee). Information is available at: www.music.mcgill.ca/mcm2013/.

Wednesday June 12

9:00 Registration & coffee

9:45 Opening remarks from conference chair and SMCM president

10:00 Paper Session 1: Analytical Algorithms

- “Key Induction and Key Mapping Using Pitch-Class Set Assertions,” Eliot Handelman and Andie Sigler
- “Maximal Translational Equivalence Classes of Musical Patterns in PointSet Representations,” Tom Collins and David Meredith
- “Segmentation Methods for Symbolic Music Similarity Research,” Anja Volk, Bas de Haas, Marcelo E. Rodriguez Lopez

~ Lunch ~

1:30 Poster Session 1:

- “A Computational Model for a Morpho-Semantic Typology of Minimal Music Samples” Kaoutar El Ghali, Adil El Ghali, Charles Tijus
- “Automatic Rock ‘n’ Roll Accompaniment Using a Hidden Semi-Markov Model,” Ryan Groves
- “Coding Schenker: Case Studies in Cadence Detection,” Brian Miller;
- “Testing Cognitive Theories by Creating a Pattern-Based
- Probabilistic Algorithm for Melody and Rhythm in Jazz Improvisation,” Jonn Spencer, Mariana Montiel, and Martin Norgaard

2:30 Paper Session 2: Generalized Tonnetze

- “Computation and Visualization of Musical Structures in Chord-based Simplicial Complexes,” Louis Bigo, Moreno Andreatta, Jean-Louis Giavitto, Olivier Michel, and Antoine Spicher
- “Generic Sequences and the Generic Tonnetz,” Julian Hook

4:00 Panel Discussion:

- Mathematical Music Theory in Academia: Its Presence, Role and Objectives in Departments of Mathematics, Music, and Computer Science. Organizer: Mariana Montiel. Panelists: Guerino Mazzola, David Clampitt, Thomas Noll, Thomas Fiore, Emmanuel Amiot, and Anja Volk.

Thursday June 13

9:00 Coffee

9:30 Paper Session 3: Tone Systems and Interval Content

- “The Structure of Z-Related Sets,” Franck Jedrzejewski
- “Using Formal Concept Analysis to Represent Chroma Systems,” Tobias Schlemmer, Moreno Andreatta

11:00 Paper Session 4, Musical Performance: Theory and Analysis

- “Hypergesture Homology for Performance Stemmata with Lie Operators,” Guerino Mazzola
- “Conceptual and Experiential Representations of Tempo: Effects on Expressive Performance Comparisons,” Elaine Chew, Clifton Callender

~ Lunch ~

2:00 Paper Session 5: Harmonic Spaces

- “The Minkowski Geometry of Numbers Applied to the Theory of Tone Systems,” Marek Žabka
- “The Torii of Phases,” Emmanuel Amiot

3:30 Paper Session 6: Corpus Studies of Harmony

- “Effects of Temporal Position on Harmonic Succession in the Bach Chorale Corpus,” Mitch Ohriner
- “An Alphabet-Reduction Algorithm for Chordal n-grams,” Christopher White
- “Compositional Data Analysis of Harmonic Structures in Popular Music,” Ashley Burgoyne, Jon Wild, and Ichiro Fujinaga

8:00 Concert

- live@CIRMMT concert featuring works by Berio, Boulez, Carter

Friday June 14

9:00 Coffee

9:30 Paper Session 7: Sturmian Words

- “Glarean’s Dodecachordon Revisited,” Thomas Noll and Mariana Montiel
- “Sturmian Canons,” Clifton Callender

11:00 Paper Session 8: Group Actions on Ordered Sets

- “Incorporating Voice Permutations into the Theory of Neo-Riemannian Groups and Lewinian Duality,” Thomas Fiore, Thomas Noll, and Ramon Satyendra
- “A hypercube-graph model for n-tone rows and relations,” Robert Peck

~ Lunch ~

1:45 Screening and Poster Session 2

- Movie (20 mins): “From Circles to Hyperspheres: 4D-Tonnetze, Spectra and Odd Symmetries” Gilles Baroin
 - “Planet-4D Extensions: Hyperspheres for Musical Applications,” Gilles Baroin and Emmanuel Amiot
 - “Some Tools for Music Analysis: Graphs, Configuration Spaces and Fundamental Groups for Musical Modes,” Mattia G. Bergomi
 - “Learning to Hear Transformational Pcset Networks,” Yinan Cao, Jon Wild, Bennett Smith, and Stephen McAdams
 - “Normalizing Musical Contour Theory,” Rob Schultz
- 3:00 Paper Session 9: Style and Creativity
- “Towards a Categorical Theory of Creativity for Music, Discourse, and Cognition,” Moreno Andreatta, Andrée Ehresmann, René Guitart, Guerino Mazzola
 - “Evaluation of N-gram-based Classification Approaches on Classical Music Corpora,” Jacek Wolkowicz, Vlado Keselj

4:30 Business Meeting

5:30 Closing Reception

5. Noteworthy News

Eytan Agmon's article, "Proto-Tonal Theory: Tapping into 9th-Century Insights," was published recently in *Music Theory Spectrum* 35.1 (Spring, 2013): www.jstor.org/stable/10.1525/mts.2013.35.1.103. The article corresponds to Chapter I of his forthcoming Springer book, *The Languages of Western Tonality*, in the series *Computational Music Science* edited by Guerino Mazzola and Moreno Andreatta.

Giovanni Albini's CD "Musica Ciclica" was published in January by Brilliant Classics (<http://www.brilliantclassics.com/release.aspx?id=FM00428323>) and distributed worldwide in February (Naxos America is distributing it in the USA). It includes many pieces composed with a mathematical based process explained in his proceedings paper with S. Antonini "Hamiltonian cycles in the topological dual of the Tonnetz" from MCM 2009.

Gilles Baroin will present the world premiere the C.G.I mathematical movie "From circle to hyperspheres, Part II: evolutions" at MCM 2013. Part I made its premiere at MCM

2011 and has subsequently been shown at museums, scientific seminars and universities and been made available on the web for educational purposes. Part II was made in collaboration with Emanuel Amiot, Louis Bigo, and Stéphane de Gérando. The whole movie will be freely available for educational purposes after the MCM 2013 conference.

Guerino Mazzola and Joomi Park piano duo CD "Passionate Message" was recently released on Silkheart Jazz Recordings.

Thomas Noll and Thomas Fiore have been awarded a grant at the Max Planck Institute for Mathematics (Bonn) to explore topics concerning the topos of triads and transformation theory during a two-week visit.

Dmitri Tymoczko's CD "Crackpot Hymnal" was recently released on Bridge Records.

Anja Volk was nominated in 2012 by the Netherlands Organisation for Scientific Research to join AcademiaNet: Profiles of Leading Women Scientists (<http://www.academia-net.org/>), a portal presenting excellent female researchers. The selection criteria unite the outstanding scientific qualifications, academic credentials and independent leadership activities of the nominated academics, as well as further supporting criteria.

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.smc-net.info.

To become an accredited individual SMCM member, please visit our online registration form at www.smc-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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Vice President:

Moreno Andreatta, IRCAM/CNRS

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SMCM Newsletter

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El Instituto Nacional de Bellas Artes a través del Centro Nacional de Investigación, Documentación e Información Musical "Carlos Chávez", la Universidad de Guadalajara a través del Centro Universitario de Ciencias Exactas e Ingenierías (CUCEI), la Universidad Nacional Autónoma de México a través de la Facultad de Ciencias, el Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, y el Posgrado en Música-UNAM, y la Society for Mathematics and Computation in Music (SMCM), convocan al

Congreso Internacional de Música y Matemática
Puerto Vallarta, México, Noviembre 26-29, 2014

International Congress on Music and Mathematics

Puerto Vallarta, Mexico, November **26-29**, 2014

Special theme:

"Analogous Thought and Abstract Forms in Music"

Special panel:

"Mathematics and Aesthetics in Julian Carrillo's (1875-1965) work"

In the context of the 40th anniversary of the National Center for Music Research, Documentation and Information (CENIDIM-INBA, Mexico), this Congress will focus on the relationship between music and mathematics, both applied and pure, understood as systems, techniques, technologies, theories, and creative work. International and interdisciplinary contributions are highly appreciated. The Congress will examine the essentials of analogous thought and its meaning and functioning in the broadest sense of "abstract forms in music".

However a wider view on music and mathematics will be also considered. The venue will bring together scholars, researchers, students and artists from many disciplines, converging within the announced topics. We welcome innovative and unexpected proposals on topics that address cultural, historic, aesthetic, conceptual/experimental and/or philosophical aspects of music and mathematics.

In addition, preparing international celebrations of Julian Carrillo's (1875-1965) 140th anniversary, we also call for papers, panels and cultural proposals related to the birth, development and actuality of *noise theory*, *harmony theory* and *microtonality*, and its many practical and conceptual implications. Concerts with Carrillo's music will be performed during the cultural programme of the Congress, among other activities.

Committee

Scientific - Organizing Committee:

Octavio AGUSTÍN-AQUINO, mathematician & musician, Universidad de la Cañada, Oaxaca.

Juan Sebastián LACH-LAU, composer & performer, Conservatorio de las Rosas, Morelia.

Emilio LLUIS-PUEBLA, mathematician & pianist, Faculty of Sciences, UNAM.

Guerino MAZZOLA, mathematician, musicologist & pianist, University of Minnesota & Society for Mathematics and Computation in Music (SMCM).

Roberto MORALES-MANZANARES, composer & performer, Music Informatics Laboratory (LIM) at the University of Guanajuato.

Pablo PADILLA-LONGORIA, mathematician & musician, Institute for Research on Applied Mathematics and Systems, IMAS-UNAM.

Gabriel PAREYON, composer & musicologist, National Center for Music Research, Documentation and Information (CENIDIM-INBA).

Open Call

We call for both individual papers and proposals for the panels and the special panel (of at least one and maximum three papers each). Individual lectures should not be longer than 20 minutes (thinking of 30 minutes sessions). Please prepare your proposals according to the submission guidelines (submission is contingent to registration - payment is not necessary at this early stage).

Deadline

The deadline for submitting individual proposals is June 22, 2014; deadline for panels proposals and paper proposals within a panel is July 13, 2014. Accepted papers will be published within the Congress Proceedings.

Languages

The official language of the Congress is English.

Poster design & artwork: Patricia Querzola Bolanos, 2013

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