

I. President's Foreword



Dear members and friends of the Society,

Let me first of all express my deep gratitude to the organizers Jon Wild, Jason Yust, Fabrice Marandola, Ichiro Fujinaga, and Christoph Neidhöfer for the creative and professional organization of the Montreal SMCM 2013 conference at McGill University. Once more, this conference demonstrated the increasing scientific and artistic quality of our joint work. Also, let me thank to Springer's Ronan Nugent, who once again facilitated the smooth publication of the conference proceedings. It is my great pleasure to thank Elaine Chew for enabling and leading the organization of our next Biannual SMCM Conference in 2015! It will take place at Queen Mary University of London, continuing our good tradition of alternation between European and American venues.

I would like to congratulate our members for their awards: David Clampitt and Thomas Noll jointly received the Society for Music Theory's 2013 Outstanding Publication Award of the SMT. It is also my humble pleasure to receive an honorary doctorate from the Mexican Universidad de Guadalajara this fall on the occasion of the International Congress on Music and Mathematics in Puerto Vallarta.

The *Journal of Mathematics and Music* is flourishing. We are happy to add six new members to the Editorial Board: Jan Beran, Emilia Gómez, Julian Hook, Jonathan Wild, Jason Yust, and Marek Żabka. Thank you all for this highly estimated professional service that greatly benefits JMM's scientific quality. The July 2014 Special Issue of JMM is extremely important to reify the transition of our field of knowledge and research into standard education components, a transition to which I already alluded in my previous foreword. IRCAM's degree program ATIAM is a further contribution to this endeavor.

The other pillar of our society's publication strategy, the Springer Computational Music Science (CSM) series, is also developing with a remarkable pace. Its sixth volume, Eytan Agmon's remarkable book, *The Languages of Western Tonality*, has been published. Two more CSM volumes will be published this year, namely: Octavio Alberto Agustin-Aquino, Guerin Mazzola, and Julien Junod's *Computational Counterpoint World*; and Soubhik Chakraborty, Guerin Mazzola, Swarima Tewari, and Moujhuri Patra's *Computational Musicology in Hindustani Music*. Several book contracts have also been signed for the CSM series. Please, consider Springer's fast and professional series management for your book plans. It is a good sign for the acceptance of our field to see also books being published by other publisher frameworks, such as Elaine Chew's book *Mathematical and Computational Modeling of Tonality: Theory and Applications*, Aline Honingh and Michiel Schuijjer's book on pitch class set theory, *Muziek uitgedrukt in getallen: De toonklasse-*

verzamelingsentheorie en haar toepassingen, and Tom Johnson and Franck Jedrzejewski's book, *Looking at Numbers*.

Here is a final thought about the future of our field of knowledge. I conjecture that the influence of computer science on the science of music has not only enabled a number of fast algorithms for composition, analysis, and representation of music, but is increasingly redefining this science's overall structure. The divisions of music theory, historical musicology, music psychology, composition, you name it, are increasingly problematic. Let me give a concrete example: My PhD student Florian Thalmann recently completed his PhD with an outstanding program, the BigBang rubette in the Rubato software environment. BigBang enables gestural composition using either a mouse or the Leap Motion tool. He uses a lot of theory, mathematics, computer science, transformational theory, categories, denotators, and what not! Is this musical composition, music theory, or musical instrument construction? Is this theory or experiment? Creative research? Metacreativity? The classical divisions do not work anymore. Perhaps a division known from physics: theoretical and experimental music science, could suggest where to move. I am aware that this situation is not only agreeable, it also provokes frictions in the global understanding of the science of music and its educational repercussion. But we are not here to conserve the status quo, research asks for changes when they are logically at stake. Thank you for being part of these new frontiers.

Guerino Mazzola
President, SMCM

2. Membership Renewal

This is a gentle reminder to renew your society membership and your subscription to *Journal of Mathematics & Music*. The first number of volume 8 (2014) has appeared, with six articles, the first issue under the editorship of Thomas Fiore and Marek Żabka. 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.

David Clampitt
Treasurer, SMCM

3. The Journal of Mathematics and Music

We are pleased to announce the latest news from the *Journal of Mathematics and Music*. Firstly, we extend a warm welcome to the new members of the Editorial Board: Jan Beran, Emilia Gómez, Julian Hook, Jonathan Wild, Jason Yust, and Marek Żabka. The new members complement and strengthen the areas of expertise represented on the Board.

The Special Issue of July 2014, guest edited by Jason Yust and Thomas Fiore, features articles on pedagogy in

mathematical music theory. The six articles by Jon Kochavi, Rachel Hall, James Hughes, Mariana Montiel and Francisco Gómez, Robert Peck, and Thomas Noll present a panorama of pedagogical materials, techniques, and reflections. The November 2014 issue is well underway, and will contain several articles involving statistics and probability. Special Issue 9.2, guest edited by Julian Hook and Robert Peck, will be an article by Harald Friepertinger and Peter Lackner on tone rows and tropes. The Virtual Special Issue, with free articles, <http://explore.tandfonline.com/content/est/tmam-virtual-issue> is still available on the upper right-hand side of the journal website. Please help us to advertise it to colleagues.

Together with our new production editor and copy editor at Taylor & Francis, we have made a number of simplifications to the journal bibliography style, the style sheet, and the website. The new journal bibliography style is Chicago author-date, which is familiar to many, and has a full BiBTeX implementation in the new author LaTeX package with tMAM.bst. This alphabetically ordered bibliography, combined with the switch from endnotes to footnotes, makes the production process much smoother. Also, the manuscript management system ScholarOne no longer requires all figures to be uploaded individually during the initial submission, they can be bulk-uploaded as a .zip folder at acceptance.

Please send us any proposals for future special issues. We look forward to any feedback on the journal. As always, we thank authors, reviewers, and editors for maintaining the high quality of the journal.

Thomas Fiore and Marek Źabka
Co-Editors in Chief, *Journal of Mathematics and Music*

4. Upcoming Conferences

The society is co-organizing the **International Congress on Music and Mathematics** in Puerto Vallarta, Mexico, November 26-29, 2014. Details are available at: <http://icmm.cucei.udg.mx/>.

The **5th Biennial International Conference on Mathematics and Computation in Music** will be jointly hosted by the Centre for Digital Music in the School of Electronic Engineering and Computer Science, and by the School of Mathematical Sciences, at Queen Mary University of London on June 22-25, 2015. Details available at: <http://mcm2015.qmul.ac.uk/>.

5. Noteworthy News

Awards

David Clampitt and Thomas Noll jointly received the Society for Music Theory's 2013 Outstanding Publication Award of the SMT for their 2011 article *Modes, the Height-Width Duality, and Handschin's Tone Character*, which was published in *Music Theory Online* 17:1. The Society for Music Theory Publication Awards Committee citation reads as follows: "The mathematical study of musical structure has made significant progress in recent years due to the dedicated efforts of an expanding group of researchers. This year's award honored an essay that brings the methods of algebraic combinatorics and word theory to bear on the study of well-formed modes, revealing qualitative differences between the modal varieties of

the same underlying scale. By revealing the interconnectedness of the concepts of tone width and tone height, the essay makes significant contributions to the history of thought about modes, and ultimately to one of the enduring mysteries in music history: the nature and development of tonality."

Books

Eytan Agmon's book, *The Languages of Western Tonality*, was recently published by Springer's Computational Music Science series, Guerino Mazzola and Moreno Andreatta, editors. See <http://bit.ly/SpringerWesternTonalityBook> for details.

Elaine Chew's book, *Mathematical and Computational Modeling of Tonality: Theory and Applications*, is now available as both ebook and in print in the Springer International Series on Operations Research and Management Science, fifteen years after the eureka moment that gave rise to the Spiral Array model on which the book is based and five years after the book proposal, formulated and accepted at the Radcliffe Institute for Advanced Study. See <http://bit.ly/SpiralArraySpringerBook> for details.

Aline Honingh and Michiel Schuijjer's book on pitch class set theory, *Muziek uitgedrukt in getallen: De toonklasseverzamelingsentheorie en haar toepassingen (Music expressed in numbers: The pitch class set theory and its applications)*, was published in Epsilon Publishers' Zebra series (no. 36). The Zebra series is dedicated to the mathematics education for high-school students. More information about the book is available at: <http://www.epsilon-uitgaven.nl/Z36.php>.

Tom Johnson and Franck Jedrzejewski's book, *Looking at Numbers*, was published in Springer's Information Systems and Applications series. Tom Johnson is a composer who uses logic and mathematical models, such as combinatorics of numbers, in his music. The patterns he finds while "looking at numbers" can also be explored in drawings. This book focuses on the drawings, the beauty and their mathematical meaning. The accompanying comments were written in collaboration with the mathematician Franck Jedrzejewski. Details about the book are available at: <http://www.springer.com/book/978-3-0348-0553-7>.

Degree Programs

The Interdisciplinary ATIAM (Acoustics, Signal Processing, and Computer Science Applied to Music) Master Program, a multidisciplinary program in the Pierre and Marie Curie University (UPMC)'s Sciences and Technology Master's Degree in collaboration with Télécom ParisTech and IRCAM, is celebrating its 20th anniversary. The program now has an international component, which makes compatible with all European Master Programs and which enables more student exchanges and institutional collaborations. More information is available at: <http://www.atiam.ircam.fr/>.

Workshops

Music Similarity: concepts, cognition, and computation, an interdisciplinary workshop organized by Anja Volk, Elaine Chew, Elizabeth Margulis, and Christina Anagnostopoulou, will take place January 19-23, 2015, at the Lorentz Center, International Center for workshops in the Sciences, Leiden, Netherlands. The workshop aims to develop a roadmap for music similarity research by bringing together experts from computer science and music sciences to discuss overarching and cross-disciplinary strategies on the theoretical and computational modeling of music similarity.

Mathemusical Conversations, an international workshop on mathematics and computation in performance and composition, will be jointly hosted by the Yong Siew Toh Conservatory of Music and the Institute for Mathematical Sciences of the National University of Singapore, in collaboration with the Centre for Digital Music, Queen Mary University of London,

and the Sciences and Technologies for Music and Sound Laboratory, Institut de Recherche et Coordination Acoustique/Musique. The workshop will take place February 13-15, 2015. For the call for abstracts/posters and for further information, please see <http://bit.ly/MathemusicalConversations>.

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 <http://www.informaworld.com/JMM>.

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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, IIMAS-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 Quereza Bolanos, 2013

 **CONACULTA**



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