

Anastasia Georgaki and Georgios Kouroupetroglou (Eds.)

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COMPUTER  
MUSIC  
CONFERENCE



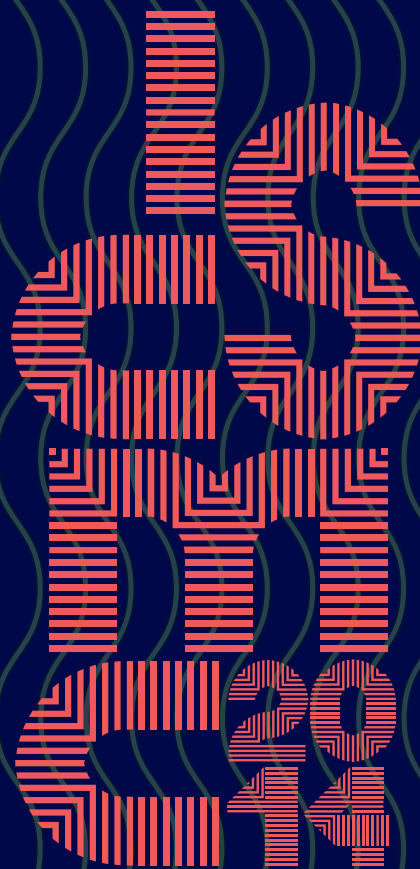
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11<sup>TH</sup>  
SOUND AND  
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Proceedings



MUSIC TECHNOLOGY MEETS PHILOSOPHY:  
FROM DIGITAL ECHOS TO VIRTUAL ETHOS

14-20 SEPTEMBER 2014, ATHENS-GREECE

Volume I

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

Anastasia Georgaki and Georgios Kouroupetroglou (Eds.)

**Music Technology Meets Philosophy:  
From digital echos to virtual ethos**

Proceedings of the ICMC | SMC | 2014

**40th International Computer Music Conference**

joint with the

**11th Sound and Music Computing conference**

14-20 September 2014, Athens, Greece

**Volume I**

National and Kapodistrian University of Athens

**Music Technology Meets Philosophy: From digital echos to virtual ethos**

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**40th International Computer Music Conference**  
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**11th Sound and Music Computing conference**

**Volume I**

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## Welcome from the ICMA committee

Dear 2014 ICMC and SMC Delegates,

It gives me great pleasure to welcome you to the 11th Sound & Music Computing / 40th International Computer Music Conference in Athens, Greece. It is the first joint SMC/ICMC conference, and I am delighted to see our two organizations come together for a week of intellectual exchange and musical congress.

The ICMA has strived to encourage the international diversity of the conference, and is very pleased to have been recently hosted by institutions in Perth, Huddersfeld, New York, Singapore, Belfast and Ljubljana (among others). Because of this international focus, I am particularly pleased to see the large number of pieces and papers from our Asian delegates this year.

This year we return to Greece, an ideal place to reflect on the history of - and our relation to - music, sound, philosophy, and technology. Of course, there is a focus on our host country, and this year we look forward to hearing a great number of pieces from the vibrant Greek electro-acoustic community, as well as many academic presentations from our Greek colleagues.

I wish to thank the organizers of this conference for their tireless work organizing this week's events, for reviewing the very large number of submissions, and for giving us the privilege of gathering in such an historic and beautiful location. In particular I would like to thank Anastasia Georgaki, Kostas Mochos and Georgios Kouroupetroglou for their dedication to this conference (and for putting up with the constant emails from the ICMA...)

Welcome to the 2014 ICMC/SMC conference!

**Tom Erbe**  
*President, ICMA*



## Welcome from the SMC Committee

Dear ICMC/SMC Delegates,

The event held this year in Athens is remarkable in many ways. It will likely be the largest computer music conference organised so far. It joins the old, long-standing ICMC conference and the new, young SMC conference in a unique event, gathering a large international community.

It takes place where the roots of many civilisations are deeply anchored, where music has been considered as a science, raised above other artistic and scientific disciplines, even above philosophy, this "love of wisdom" that will cast its lights on the conference.

Organizing such an event is a real challenge and I'd like to address my warmest congratulations to the organizing team but especially to Anastasia Georgaki, whose style successfully merges technology and humanity.

Welcome to the 2014 ICMC and SMC. No doubt that this conference will be memorable in many ways.

Sincerely,

**Dominique Fober**

*On behalf of the SMC Steering Committee*



## Welcome from the Organising Committee

On behalf of the the organizing committee, we welcome you to the Joint Conference ICMC14|SMC14 in Athens, a city whose cultural roots, reach deeply into the remembrance (anámnêsis) of the origins of Music (Mousikê) and Philosophy. This conference is organized by the University of Athens (Music Department and Department of Informatics and telecommunications), the Institute for Research in Music and Acoustics (IEMA) and the Onassis Cultural foundation and brings together the two main events in the field for the first time: the 40<sup>th</sup> International Computer music Conference and the 11<sup>th</sup> Sound and Music Computing Conference. Both of these have been previously held in Greece at different times and places (the 23<sup>d</sup> ICMC in Thessaloniki in 1997 and the 4<sup>th</sup> SMC in Lefkada in 2007).

In 2014 they meet in Athens under the theme *“music technology meets philosophy: from digital ethos to virtual ethos”* to form the largest conference ever held on Computer Music and Sound and Music Computing. The main objective of this event is to explore on the one hand the notion of digital echos (sound) through different approaches of computer music and interactive music systems, and on the other hand that of virtual ethos, namely the impact of technology on composition, performance, musicology and education. It is hoped that this will open new avenues for Computer Music and Sound and Music Computing enabling it to reach out to society and provide wider and more direct access to knowledge, creative learning and cultural heritage.

To celebrate this joint event, we have invited five keynote speakers/composers which count among the most influential pioneers and creators in Computer Music and Music Computing: Jean-Claude Risset, John Chowing, Curtis Roads, Peter Nelson, and Gerard Assayag. Their role in redefining Computer Music and Sound and Music Computing through a critical approach is crucial for this conference.

We have also invited established composers and researchers to present talks and pieces: Cort Lippe, Clarence Barlow, Agostino Di Scipio, Georgia Spyropoulos, Alan Marsden, Makis Solomos and George Tzanetakis.

In order to underline the main theme of the conference, special sessions and additional oral session have been organized which deal with critical domains of the impact of technology on music creativity and performance, the aesthetics and ethics of computer music. At the same time, we tried to remain faithful to the heritage and format of the two conferences which form parts of this event:

Part of the tradition of the SMC conference are the summer school and “poster craze” sessions. This year’s summer school topic is Computational Musicology.



A characteristic trait of ICMC is the large number of concerts of various genres of computer music (acousmatic, interactive, algorithmic, new media) and also of sound or audiovisual installations displayed in various venues.

In addition to the above, this year's Joint Conference includes a considerable number of workshops and demos which offer participants the opportunity to exchange ideas and to experience innovative researches and projects.

Prompted by the main theme of this year's conference, we were motivated to select locations representative both of Athens' past and of its present as venues for satellite events and installations. Thus, you will be able to visit several museums, archaeological sites, galleries and other characteristic locations within the framework of the conference.

The "Electroclub" late night concerts which will be held in the historical Stockmarket building at the very center of Athens will open the computer music community to the broader public of Athens.

We would like thank all members of the scientific and music committee, the additional paper reviewers, as well the assistants and student volunteers who have dedicated precious time and efforts for the organization of this event. Furthermore, we would like to thank the ICMA Board and the SMC Steering Committee for their support. We express our deep gratitude for their time and dedication.

We hope that your stay in Athens and will be both enjoyable and culturally enriching and recommend that you take some time to discover the museums, the archeological sites, the cultural history and current diversity of Athens.

**Anastasia Georgaki**, University of Athens (*chair*)

**Georgios Kouroupetroglou**, University of Athens (*paper chair*)

**Kostas Moschos**, IEMA (*music chair*)

**Iannis Zannos**, Ionian University (*installation chair*)

**Christos Karras**, Onassis Cultural foundation (*concert chair*)

**Christina Anagnostopoulou**, University of Athens (*summer school chair*)

# Forward

This two-volume book contains the proceedings of the Joint Conference **ICMC14|SMC|2014** (<http://icmc14-smc14.net>) the **40th International Computer Music Conference** and the **11th Sound and Music Computing** conference, held in Athens, Greece, from 14 to 19 September 2014 and organized by the National and Kapodistrian University of Athens (Music Department and Department of Informatics & Telecommunications), and co-organized by the Onassis Cultural Foundation and the Institute for Research in Music and Acoustics.

ICMC14|SMC|2014 received 383 submissions from 35 countries in all continents. Each submission was reviewed by two or three members of the Scientific Program Committee consisted by 50 internationally recognized experts, assisted by the International Review Panel of additional 145 experts. Part B of the proceedings include the 120 papers accepted for oral presentation (acceptance ratio 31%) and the 153 papers accepted as poster papers (acceptance ratio 40%).

Firstly, I must thank the authors, whose research and development efforts are recorded here. Secondly, I thank the members of the scientific program committee and the additional paper reviewers for their diligence and expert reviewing. Last but not least, I thank the keynote speakers as well as the invited speakers for their invaluable contribution and for taking the time to synthesize and deliver their talks.

September 2014

**Georgios Kouroupetroglou**, University of Athens  
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# Best Paper Award

We are pleased to announce that the Best Paper Award of the ICMC|SMC|2014 goes to:

## **Spatial Transformations in Simplicial Chord Spaces**

Louis Bigo<sup>1</sup> Daniele Ghisi<sup>2</sup> Antoine Spicher<sup>3</sup> Moreno Andreatta<sup>4</sup>

<sup>1</sup> University of the Basque Country UPV/EHU, Spain

<sup>2</sup> IRCAM, France

<sup>3</sup> Université Paris-Est LACL, France

<sup>4</sup> UPMC IRCAM – CNRS, France

The paper was selected from many outstanding submissions by the Best Paper Award review panel:

**Margaret Schedel**, Sony Brook University, USA (chair)

**Richard Dudas**, Hanyang University, Korea

**Rebecca Fiebrink**, Goldsmiths University of London, United Kingdom

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- SMC 2005: UniSa, Salerno, Italy
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