# N EW MUSIC CONCEPTS

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4TH INTERNATIONAL Conference ICNMC 2017

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# 4<sup>TH</sup> INTERNATIONAL CONFERENCE ON NEW MUSIC CONCEPTS (ICNMC 2017)

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# Preface

Welcome to the proceedings of the Fourth International Conference on New Music Concepts (IC-NMC2017) held from March 16 to 17, 2017 at Palazzo Rinaldi, Trevi- so, Italy. International Conference on New Music Concepts is the annual conference organized by the Music Academy "Studio Musica" of Treviso (Italy) that is af liated with Conservatorio di Musica "Benedetto Marcello" of Venice.

The goals of the Conference are to foster international research collaborations in the elds of theoretical, experimental and applied Music Studies as well as to provide a forum to present current research results in the forms of technical sessions, round table discussions during the conference period in a relax and enjoyable atmosphere.

47 papers from 21 countries were received. All the submissions were reviewed on the basis of their signi cance, novelty, technical quality, and practical impact. After ca- reful reviews by at least three experts in the relevant areas for each paper, 12 papers from 9 countries were accepted for presentation or poster display at the conference. These papers are from countries including Belgium, Egypt, Italy, Portugal, Romania, Thailand, Turkey, UK, USA. They are classi ed into 7 parts in the proceedings which are e-Learning and Music, Ethnomusicology, Mathematical Models in Music, Music Cognition, Music Education, Music Perception, Signal Processing.

Besides the regular paper presentations, the program of the conference included two interesting and insightful keynotes addressed by Prof. Luca A. Ludovico (Università degli Studi di Milano, Italy), and Prof. Steven Jan (University of Hudders eld, UK). We would like to express my special thanks to these two keynote speakers.

The conference also provides a suitable environment for discussions and exchanges of research ideas among participants during its well-organized post conference. Al-though we will present our research results in technical sessions, participate in round table discussions during the conference period, we will have extra and fruitful occa-sions to exchange research ideas with colleagues in this relaxed and enjoyable atmo-sphere. I want to take this opportunity to thank all participants who have worked hard to make this conference a success. Thanks are also due to the staff at ABEditore (Milan -Italy) for their help with producing the proceedings. I am also grateful to all members of Organizing Committee, Local Arrangement Committee and Program Committee as well as all participants who have worked hard to make this conference a success. Finally I want to appreciate all authors for their excellent papers to this conference.

I wish you all a fruitful conference and hope you will enjoy ICN2017.

# **Keynote Lectures**

## The Two Brothers: Reconciling Perceptual-Cognitive and Statistical Models of Musical Evolution

### Steven Jan

University of Huddersfield UK

#### **Brief Bio**

Steven Jan studied music at the University of Leeds and went on to complete a PhD there, entitled 'Aspects of Mozart 's Music in G Minor: Toward the Identification of Common Structural and Compositional Characteristics', under the supervision of Professor Julian Rushton. The dissertation was published by Garland in 1995 in their *Outstanding Dissertations in Music from British Universities* series. Before joining the Music Department at Huddersfield in January 2001 he taught at the University of East Anglia and in the School of Academic Studies at the Royal Northern College of Music, Manchester. He is currently Senior Lecturer and Music Subject Area Leader.

### Abstract

Various criticisms have been levelled against memetics. Putting aside that which claims it is a "meaningless metaphor" (Gould, in Blackmore, 1999, p. 17), another is that it is not truly scientific. This critique maintains that any insights memetics might offer are largely gualitative and intuitive (humanistic), rather than quantitative and empirical (scientific). Put more formally, this critique hinges partly on the Popperian notion of falsifiability (Popper, 1959), in the sense that to be seen as scientific memetics must be falsifiable, and for this to occur it needs to be formalized so that falsifiability can be assessed experimentally in relation to its specific claims. While the "units, events and dynamics" of memetic evolution have indeed been abstractly theorized (Lynch, 1998), they have not been applied systematically to real corpora in music. Some researchers, convinced of the validity of cultural evolution in more than the metaphorical sense adopted by much musicology, but perhaps sceptical of some or all of the claims of memetics, have attempted corpus-analysis techniques of music drawn from molecular biology, and these have offered strong evidence in favour of system-level change over time (Savage, 2017). This article argues for a synthesis between such quantitative approaches to the study of music-cultural change and the theory of memetics as applied to music (Jan, 2007), in particular the latter's perceptual-cognitive elements. It argues that molecular-biology approaches, while illuminating, ignore the psychological realities of music-information grouping, the transmission of such groups with varying degrees of fidelity, their selection according to relative perceptual-cognitive salience, and the power of this Darwinian process to drive the systemic changes that statistical methodologies measure.

### The Interchangeable Roles of Music and Technology in Computer-Supported Education

### Luca A. Ludovico

Università degli Studi di Milano Italy

### **Brief Bio**

Luca A. Ludovico is researcher and professor of Music programming, MIDI programming and Sound synthesis at the Università degli Studi di Milano, Italy. He received his Master of Science in Computer engineering from the Politecnico di Milano - Italy in 2003, and his Ph.D. degree in Computer Science from the Università degli Studi di Milano - Italy in 2006. His doctoral dissertation dealt with multilayer formats for music representation. His research interests include symbolic music encoding, computational musicology, computer-supported music education, preservation and exploitation of intangible cultural heritage. Concerining these fields, he is author of about 70 scientific papers. As a member of the IEEE Technical Committee on Computer Generated Music, he actively worked on the IEEE 1599 standard, and for his contributions he received an official award from the IEEE Computer Society. Currently he is a member of the W3C Music Notation Community Group and of the MIDI Association. He is cooperating as a Peer Reviewer for international journals (ACM Journal on Computing and Cultural Heritage, Computer Standards & Interfaces, International Journal of Emerging Technologies in Learning, etc.) and conferences (CSEDU, ICMC, etc.). Moreover, he is a member of the Program Committee of the International Conference on Computer Supported Education (CSEDU), of the Editorial Board of the Journal of Computer Sciences and Applications (JCSA) and of the Editorial Management of the Scientific Journal on Digital Cultures (DigitCult).

### Abstract

Scientific literature has frequently focused on the contribution offered by technology to support music education at various levels. A less investigated subject is the possibility of using multimedia and musical languages to encourage the acquisition of digital competences. In this vision, the roles of *mediator* and *disciplinary goal* – which in the context of computer-supported education are traditionally assigned to technology and music, respectively – are reversed. These concepts will be exemplified through applications which explore the relationship between music and technology from a new point of view, merging the two fields and making traditional roles more nuanced, thus encouraging the development of higher-order thinking skills. This paper summarizes the keynote lecture held by the author at the 4th International Conference on New Music Concepts – ICNMC 2017.

# International Scientific Committee

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# Authors

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**Poster presentation** 

Samma'i Form with Piano Accompany in Romantique Style Mayada Nabil ElKatatny, Heidi Wagih Moawad

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