

Welcome to 17th SBCM!

Welcome to the 17th edition of SBCM! The Brazilian Symposia on Computer Music are thriving and exciting venues for sharing ideas about recent developments in the fields of computer music, sound and music processing, music information retrieval, computational musicology, multimedia performance and many other things related to art, science and technology. We would like to invite you to contribute to and participate in this event, which will take place at the beautiful campus of the Federal University of São João del-Rei, Brazil, from September 25th to September 27th 2019. During the event, participants will have the opportunity to attend to keynote talks, oral presentations of music and technical papers, poster discussion sessions, workshops, discussion panels and concerts, and will have plenty of opportunities to interact and discuss collaborations with other participants.

SBCM Committee

Internet connection

When using UFSJ wifi connection, please use any eduroam login and password in our captive portal.

Example:

- login: USP_user_to_login@usp.br
- password: USP_password

	Wednesday	Thursday	Friday
	Sep 25	Sep 26	Sep 27
08h00	Registration	Registration	Registration
08h30			
09h00	Keynote Talk Isabel Cecilia Martinez	Keynote Talk Mauricio Alves Loureiro	Keynote Talk Martin Rocamora
09h30			
10h00	Oral Section 1	Poster Crazy	CECM meeting
10h30	Coffee Break	Coffee Break	Coffee Break
11h00	Oral Section 2	Oral Section 3	Research reports
11h30			
12h00	Lunch	Lunch	Lunch
13h30	Opening	Oral Section 4	Research reports
14h00	Workshops		
14h30		Oral Section 5	Closing remarks
15h00		Coffee Break	Coffee Break
16h00	Workshops	Oral Section 6	Socializing
16h30		Keynote Talk Fernando Iazzetta	
17h00			
17h30	Dinner Break	Dinner Break	
18h00			
20h00	Concert Night 1	Concert Night 2	
21h00			
22h00			

Oral Sessions

(Teatro - CSA)

Session 1: Wednesday / 10:00 - 10:30

Computer Music and Society

Reflecting on the changing trends in computer music

- Cognitive Offloading: Can ubiquitous technologies affect our musicality?
- Reflection and practice on generative music structuring: the formal problem of ergodicity

Session 2: Wednesday / 11:00 - 12:00

Computer Assisted Musicology

Methods, tools, and case studies on music analysis assisted by computers

- A technical approach of the audience participation in the performance “O Chaos das 5”
- A computer-based framework to analyze continuous and discontinuous textural works using psychoacoustic audio descriptors
- Identifying Narrative Contexts in Brazilian Popular Music Lyrics Using Sparse Topic Models: A Comparison Between Human-Based and Machine-Based Classification.
- Iracema: a Python library for audio content analysis

Session 3: Thursday / 11:00 - 12:00

Digital Art

Using contemporary techniques for musical creation

- BUZU: Retrieving public transportation data for sonification
- Composing through Interaction: a framework for collaborative music composition based on human interaction on public spaces
- State of art of real-time singing voice synthesis
- J-Analyzer: A Software for Computer-Assisted Analysis of Antônio Carlos Jobim's Songs

Session 4: Thursday / 13:30 - 14:30

New Interfaces for Musical Expression

Devices and methods that foster musical expression using computers and electronics

- Visualizing Air Drums: Analysis of Motion and Vocalization Data Related to Playing Imaginary Drums
- Sustainable Interfaces for Music Expression
- Ha Dou Ken Music: Mapping a joysticks as a musical controller
- TumTá and Pisada: Two Foot-controlled Digital Dance and Music Instruments Inspired by Popular Brazilian Traditions

Session 5: Thursday / 15:30 - 16:30

Music Information Retrieval

Advances on automatic methods to extract meaningful information from music signals

- Low-Latency f0 Estimation for the Finger Plucked Electric Bass Guitar Using the Absolute Difference Function
- Comparing Meta-Classifiers for Automatic Music Genre Classification
- A chord distance metric based on the Tonal Pitch Space and a key-finding method for chord annotation sequences
- Predicting Music Popularity on Streaming Platforms

Session 6: Thursday / 16:00 - 17:00

Software for Music Composition - Novel tools that facilitate contemporary musical creation

- The development of libmosaic-sound: a library for sound design and an extension for the Mosaiccode Programming Environment
- Combining Effects in a Music Programming Language based on Patterns
- Prototyping web instruments with Mosaiccode
- PSYCHO library for Pure Data

Research Reports

Session 1 - Friday / 11:00 - 12:00

- NESCoM Research Report (2019)
- Computer Music research at FEEC/Unicamp: a snapshot of 2019
- Alice: Arts Lab in Interfaces, Computers, and Everything Else - Research report (2019)
- A retrospective of the research on musical expression conducted at CEGeME

Friday / 13:30 - 14:30

- MusTIC: Research and Innovation Group on Music, Technology, Interactivity and Creativity
- LCM-Ufrgs Research Group Report: What are we doing in Computer Music?
- Computer Music Research Group - IME/USP Report for SBCM 2019

Keynote Talks

Keynote Talk 1 - Wednesday / 09:00 - 10:00

Music, Embodied Mind, and Cultural Practice: how the self and the other shape musical experience

Dra. Isabel Cecilia Martínez

Laboratorio para el Estudio de la Experiencia Musical.

Facultad de Bellas Artes.

Universidad Nacional de La Plata. Argentina

In this talk, human musicality is inquired in the context of the cultural practice of music. Informed by the theory of social embodied cognition, some musical practices are investigated with the aim of accounting for an ontology of the self and the other in the cultural practice of music. Since the very beginning of life, making sense of music requires human action-perception involvement with the complexity of sonic-kinetic events. This capacity is based on human disposition to build social meaning throughout the interaction of our mind-body-environmental complexes with others'. Musical development is bound to the ways in which the temporal, spatial and dynamic configurations of sound and movement are organized in our self-other interaction, and developed in our imaginative, embodied and emotional cognition. The meaning of the embodied mind and the ways the self and the other in interaction shape human experience in the cultural practice of music are important to discuss an epistemological turn in the fields of musicology, music psychology and music pedagogy, and also to open new music research avenues.

Keynote Talk 2 - Thursday / 09:00 - 10:00

The First Brazilian Symposium on Computer Music presents Brazilian computer music potentials - Caxambu, MG, 1994

Maurício Alves Loureiro

Federal University of Minas Gerais

The main objective of this talk is to report on the First Brazilian Symposium on Computer Music, which occurred on August 1994, at the city of Caxambu, Minas Gerais, promoted by the UFMG. NUCOM, the group of young academic dedicated to this emerging research field in Brazil, was created as a discussion list by e-mail, during the year of 1993. This quite exciting and fancy event at Hotel Gloria in Caxambu was able to imposingly launch the group to the national, as well as to the international academic community. First, due to the excellency of the event's output and its daring program, that included 34 selected papers by researchers from various institutions from Argentina, Brazil, Canada, Denmark, France, Hong Kong, Mexico, UK, and USA, 5 lectures and 2 panels of discussion offered by researchers from the most important computer music research centers all over the world. The program also included eight concerts, two of them featuring traditional music, such as Bach, Mozart, and Brazilian music. Six computer music concerts presented 48 selected compositions submitted to the symposium. Second, as the symposium happened as apart of the 14th Congress of Brazilian Computer Science Society (SBC), the excellency of its output was able to attract the interest of SBC's board of directors. They invited NUCOM to integrate the society as Special Committee, which are sub-groups of SBC dedicated to specific computer science topics. At the end of the description, this report aims at raising questions, arguments, and debates about today's format of NUCOM meetings, considering more seriously the interdisciplinary character of the methodologic approaches adopted by the field. Interdisciplinarity should be persued by striving to contaminate a growing number of different topics of musical sciences, as well as of other research fields.

Keynote Talk 3 - Thursday / 17:00 - 18:00

The Politics of Computer Music

Fernando Henrique de Oliveira Iazzetta

NuSom - Núcleo de Pesquisas em Sonologia - USP

When a set of objects, actions, and procedures begin to coalesce and gain some coherence, they become perceived as a new, cohesive field. This may be related to the emergence of a new discipline, a new craft, or a new technological configuration. As this new field shows some coherence and unity, we tend to overlook the conditions that gave rise to it. These conditions become “naturalized” as if they were inherent in that field. From this point on, we do not wonder anymore to what extent the contingencies (formal, social, economic, technological, aesthetic, religious) that gave rise to that field have been crucial to its constitution.

When it comes to computer music we are used to its applied perspective: tools, logical models, and algorithms are created to solve problems without questioning the (non-computational) origin of these problems or the directions taken by the solutions we give to them. The idea of computing as a set of abstract machines often hides the various aspects of the sonic cultures that are at play when we develop tools and models in computer music.

The way we connect the development of computer tools with the contingencies and contexts in which these tools are used is what I call the politics of computer music. This connection is often overshadowed in the development of computer music. However, I would like to argue that this connection is behind everything we do in terms of computer music to the point that it often guides the research, development, and results within the field. In this presentation, I would like to consider the politics of computer music as a way to critically explore the field. I'll also point to some initiatives in this direction that we have developed at the NuSom, the Research Center on Sonology of the University of São Paulo.

Keynote Talk 4 - Friday / 09:00 - 10:00

Computational Methods for Percussion Music Analysis

Martín Rocamora

Universidad de la República (UdelaR), Uruguay

Most of the research conducted on information technologies applied to music has been oriented towards mainstream popular music in the so-called 'Western' tradition. Although it proved to be effective for various music styles and repertoires, new approaches are needed to deal with other music traditions, such as those from Africa, China, India, or the Arab world. Fortunately, over the last few years there have been increasing efforts devoted to the study of traditional, folk or ethnic music. The computational analysis of rhythm from audio signals remains a challenging task in several cases, for instance, for syncopated or poly-rhythmic music.

This talk offers an overview of the research we conducted over the last few years on computational rhythm analysis from audio recordings, considering the Afro-Uruguayan candombe drumming as a case study. It comprises the creation of datasets, the discovery and analysis of rhythmic patterns, the study of micro-timing and the development of algorithms for beat and downbeat tracking. Besides, it also discusses our current efforts to improve and extend the methods to other music traditions, in particular, to Afro-Brazilian Samba.

Concert Nights

All the concerts will be at CCUFSJ - Solar da Baronesa.

Wednesday / 20:00 - 21:30

- Iterative Meditations
- O Chaos das 5

Thursday / 20:00 - 21:00

- Inside the Three
- A Longa Noite do Não-Ser
- Tecnofagia: A Multimodal Rite
- Black Lives Matter

Installations

- Graph Composer: music composition from graph design (CSA)
- PER(SINO)FICAÇÃO (CCUFSJ - Wednesday)
- Body Building Music: The Kinase installation (CCUFSJ - Thursday)

Workshops

Wednesday / 14:00 - 18:00

Introduction to automatic audio classification

(Tiago Tavares - UNICAMP)

Room 1.12 PAV - CSA

This hands-on workshop comprises essential techniques for digital signal processing and machine learning. Participants will use the Python libraries `librosa` and `scikit-learn` as support to build an automatic audio classification system. The workshop will use explorations in toy problems to approach theoretical aspects. Later, it will discuss practical issues for building a scientific applications in the field.

1) For the Introduction to Automatic Audio Classification workshop, please install:

- Python 3,
- Jupyter Notebook
- Python packages: `librosa`, `scikit-learn`, `numpy`, `matplotlib`, `scipy` All of these packages are available through the Anaconda framework (<https://www.anaconda.com>).

Procedural Music in Games

(José Eduardo Ayres, Pedro Arthur, Vitor Rolla, Luiz Velho - Instituto Nacional de Matemática Pura e Aplicada)

Room 1.15 PAV - CSA

This workshop will bring to the audience an introduction to the Chuck audio programming language, to the Unity game engine within a hands-on experience how one can use such technologies to achieve a new level of immersion through procedurally generated sounds responding to game events and visual effects. The workshop is intended to a broad audience ranging from programmers to ones with little to no knowledge in the field.

1) For the Procedural Music in Games workshop, please install:

- Unity (<https://store.unity.com/download>)
- Chuck (<http://chuck.stanford.edu/release/>)

Poster Crazy Session

Thursday / 10:00 - 10:30

- A cluster analysis of benchmark acoustic features on Brazilian music
- The taste of scales and chords
- Automatic onset detection using convolutional neural networks
- Harmonia: a MuseScore's plugin to teach music
- Audio Encryption Scheme based on Pseudo-orbit of Chaotic Map
- Digital Design of Audio Signal Processing Using Time Delay
- 3A: mAchine learning Algorithm Applied to emotions in melodies
- Instrumental Sensibility of Vocal Detector Based on Spectral Features
- Characterization of the sonority associated to woodwinds instruments through spectral analysis
- Batebit Controller: Popularizing Digital Musical Instruments' Technical Development Process

