



**University of Pavia**

**Ph.D. School of Electrical and Electronics Engineering and Computer Science**

## **SEMINAR**

### **Automatic Musical Accompaniment to Arab Vocal Improvisation**

Presenting a Knowledge-based model, and investigating a Machine Translation Approach

***Prof. Fadi Al-Ghawanmeh***  
**Music Dept., University of Jordan**

December 13, 2016 – h. 10:30  
Seminar Room, Piano D

The proposition of automatic musical accompaniment systems debuted in the mid-1980s. However, this was not applied to Arab music till recently. This is due, partially, to the lack of research applying informatics to Arab music, also to the particularity of Arab music. This presentation starts with providing a brief introduction to Arab music: region, theory, maqamat and instruments. The Arab vocal improvisation, Mawwal, is also introduced concisely. Then, an overview to automatic accompaniment systems is presented: history, main approaches, applications and two examples; Mysong harmonic model and Mawaweel heterophonic model. Finally, the idea of introducing machine translation techniques to automatic accompaniment of Arab improvisation is discussed from several angles: literature, challenges, limitations, corpus creation and pre-processing.

Bio: Fadi Al-Ghawanmeh is a musician and technologist who has been conducting research on Music Technology applied to Arab music for almost ten years. His passion is the design of useful music applications, influenced by Arab music. Since 2011, he has been paying considerable efforts in tasks related to customizing and improving the algorithmic design of automatic musical accompaniment in order to apply it for Arab vocal improvisation. Mr. Al-Ghawanmeh holds master's degree in Music Technology from New York University in the USA, he also has two bachelor degrees in Computer Engineering and Music Performance (Nay), both from the University of Jordan. He is a Faculty Member in Music Department at the University of Jordan Since January 2013, and he is an associate researcher in Associate Researcher in SMarT group, Lorraine Research Laboratory in Informatics and Applications –Nancy, France. During his study and career, he published several academic articles in international journals & conferences, and achieved a number of national and international Awards, scholarships and Funds.

**Organizer**

Prof. Virginio Cantoni

**Ph.D. Coordinator**

Prof. Paolo Di Barba