

**Giordano Bruno Lucio:**

**Abstract of the work plan**

**Project title: Emotional walking**

The project has the goal of studying expression of emotional intentions in walking, and the ability of listeners to recognize them.

Expression and recognition of emotional intentions has been already studied in the field of music performance, and perception, making it possible to highlight the properties of the musical structure associated with different emotional intentions, both at the production and reception sides. It was argued that expression of emotions should be based on structures independent of modalities (e.g., music, voice, gestures). Consistently, with speech, music, and singing voice, equal emotions are found associated with similar variations in patterns properties. This project intends to test for the modality-independence hypothesis using one of the gestures most frequently executed by humans: walking.

Research will be divided in two phases. First, performance will be investigated, asking participants to walk with a normal style, or one of different emotionally expressive styles. Musically untrained performers will be used, thus avoiding expressive rendering of walking to originate from a simple extension of rules learnt during musical training. Second, perception will be investigated with a listening tests. Classification tasks and/or tasks based on the estimation of the amount of emotional content will be carried on recorded walking sounds. The ability of listeners to recognize intended emotional expression will be first assessed. Analysis of those configurations with the stronger association with given emotional intentions will then allow deriving acoustical rules for the perception of walking sounds with the maximal amount of emotional expressiveness.

Knowledge thus collected will be potentially available for the generation of control rules for walking sounds synthesis models. Depending on time constraints such control rules will be tested in a second listening test conducted with synthetic sounds, thus providing a mean to further validate results from the first listening test.