

Ao. Univ.-Prof. Dr. Matthias Bertsch:
PERFORMANCE SCIENCE RESEARCH - VIENNA

Guest Lectures on PERFORMANCE SCIENCE
Department of Music Studies, Room 103



FRIDAY, 18th of October 2013

10:00-11:30 - Lecture: Musical Instruments Research (90 min.)

11:45-12:30 - Come together Round Table (45 min.)

Today, research is organized in national and international scientific communities. Let us join und discuss about societies and upcoming conferences. How can we share knowledge and how can we cooperate beyond borders. Let us have a drink and come together.

MONDAY, 21st of October 2013

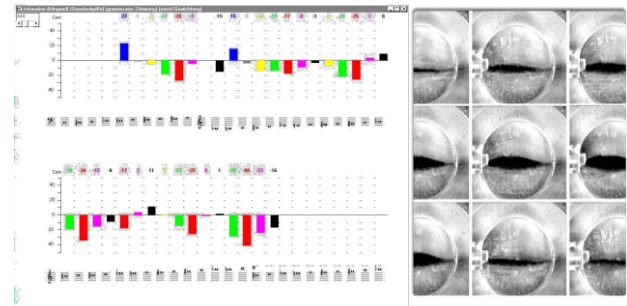
09:45-11:15 - Lecture: Music Physiology Research:
brain - muscles - ears: physiological aspects
of musical performance (90 min.)

11:30-13:00 - Biofeedback-Workshop: Bring your Own Body (90 min.)

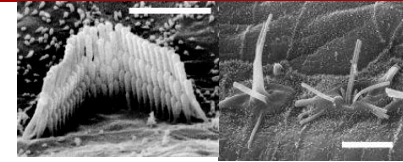
Musical Instruments Research

Modern high-tech equipment empowers research in the area of music acoustics. Slow motion videos picturing violin strings, timpani membranes or brass players lips can give us stunning insight into how musical instruments work and how players work with their instrument. Laser-vibrometry, impedance measurements and sound analysis can explain specific characteristics of instruments, for example the specific differences of Viennese instruments like the Vienna Horn or the Vienna Timpani. While these technical tools can support research in some aspects, our ears are still most important in the science of music phenomenon. Results of listening tests will be presented and sound examples will demonstrate striking psychoacoustic effects.

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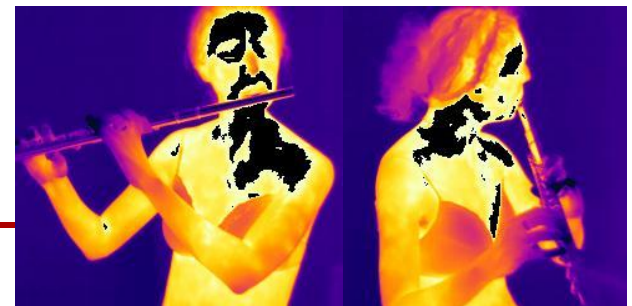


brain - muscles - ears: physiological aspects of musical performances.



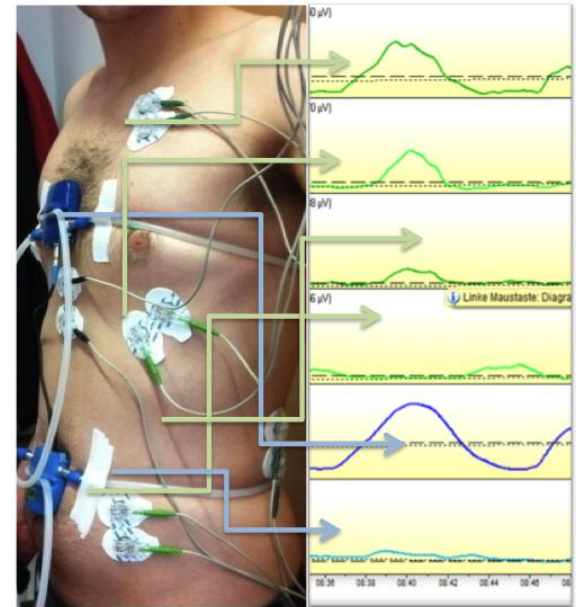
Professional musicians work hard. During thousands of hours of practicing and rehearsals, the whole body and brain is involved in performing the desired music. Physiological and psychological research reveals knowledge that can help with dealing better with human resources since recent studies on musicians health display a dramatic situation and underline the need for action in this field. This talk will give actual data of performers medical problems and a collection of physiological support equipment. Moreover, audiovisual material will be presented that focuses on the fascinating activities of musicians' brain and body. Information on hearing loss shall remind everyone on ear protection. Finally, specific studies on brass players tonguing and thermo camera investigations of muscle activities will be demonstrated.

MONDAY, 21. Oct.: 09:45-11:15



Biofeedback: Watch what happens ...

Biofeedback is the process of gaining greater awareness of many physiological functions through measuring vital parameters like muscle tone, skin conductance, heart rate or breathing pattern. This technique can be used to improve performance - or at least to get a better understanding of the physiological changes that occur in conjunction with changes in thoughts, emotions, and behavior during a concert. After a short introduction on the vegetative nervous system, and the measuring equipment, students have the opportunity to get a real time feedback of their own body. You can try to relax or you can play a short piece of music, as we watch what happens. Be curious and bring your own body!



MONDAY, 21st of Oct.: 11:30-13:00

Biofeedback-Workshop: Bring your Own Body
