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Porto International Conference on

Musical Gesture as Creative Interface

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PROGRAM

and

ABSTRACTS

2016 Porto International Conference on
Musical Gesture as Creative Interface

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Articulating Research in Medicine of Performing Arts with Musical Performance and Gesture

ABSTRACT

This paper intends to enhance the importance of an interdisciplinary research team in the analysis of Performing Arts. To fully understand the student as a performer, the Musical Teacher should focus on the musical performance and gesture, the health professional on the biomechanical and anatomy, and finally the engineer on the measuring and quantification of the music and performer movement. A complete and detail analysis of this information is an added value not only to the performance itself, but also to the long term health of the performer. The acquired information can include not only the traditional systems for motion and music capture, but also other technics that are now-a-days easier and cheaper to use, like MEMS (Micro Electro Mechanical) Inertial Motion Units (IMU) or infrared thermal cameras.

The articulation of these three areas of interest, musical performance, performing arts medicine and engineer will eventually give a better understanding of gesture during the musical activity of a string or wind instrumentalist.
Thus, the present study will correlate some information regarding a pianist's performance and the association between head and neck posture focusing on the relationship of the cranium-cervical-mandibular complex with the pianist's musical activity.

It is quite often in performing arts to have neck, jaw or facial pain, resulting from the adoption of certain postures that are maintained for long periods of practicing that can induce fatigue and overloading of certain muscular groups with direct implications on the musculoskeletal system.

In conclusion, when regarding to orofacial pain, in this case of piano players, it is important the investigation of a medical doctor, in perfect articulation with a piano teacher and an engineer where thermography and 3D sensors can be applied in order to better understand the biomechanics an anatomy-physiology of musical performance and gesture.

Miguel Pais Clemente. Dentistry Degree in 2002. Diploma in Implant Dentistry, by the Department of Biomaterials University Gotemborg, 2004. Master of Science in Conservative Dentistry in Faculty of Dentistry University of Porto (FMDUP), 2006. Postgraduate course in Orthodontics by Faculty of Medicine in University of Porto (FMUP), 2007. Postgraduate course in Prosthodontics and Implant Dentistry by FMUP, 2008. Postgraduate course in Acupuncture by Instituto Ciências Biomédicas Abel Salazar, (ICBAS), 2009. Ph.D. student in FMDUP. Invited teacher of Occlusion, TMJ and Orofacial Pain in FMDUP 2008-2014. LABIOMEP and external investigator in FEUP. Founder of the Portuguese Performing Arts Medicine Association. Associação Portuguesa de Medicina e Artes do Espectáculo (APMAE). More than 100 scientific presentations in nacional/internacional congresses. Attribution of 1st Prize for better oral presentation in 7 scientific congresses. Author/co-author of internacional and nacional publications. Co-Editor of the book "ArtiCOLAR Saúde oral e Arte"- BIAL.

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Joaquim Gabriel is a Mechanical Engineer (Faculty of Engineering at U. Porto), specialized on machine design; a post-graduated in Industrial Automation and Process Management; Master in Industrial Computing, and PhD in Industrial Electronics. He was research fellow of JNICT in the Development of Virtual Instrumentation, researcher from the Japanese Ministry of Industry EU-STA at Kanagawa Science Park, Japan (1995-97), and invited researcher at Yokohama City University, Japan. Currently he is researcher of the FCT Unit - UISPA - Integration Unit Systems and Process Automation integrated in INEGI Research Laboratory - Institute of Science and Innovation in Engineering Integrated Mechanical and Industrial Engineering associated with LAETA - Laboratory for Energy, Transport and Space. Since 2003 is assistant professor of FEUP, integrated in the group of automation, instrumentation and control. His main interests are instrumentation, data acquisition, industrial automation, medical devices and thermography.