

**Simone Fiori 博士 (Università Politecnica delle Marche, Italy)**  
講演会のお知らせ

日時: 2016年1月7日 (木)

時間: 16:40~17:40

場所: 東京農工大学 小金井キャンパス 3号館210会議室 (リンク先3番の建物)

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Title: Hips Swaying Fluency Evaluation by a Geometric Jolt Index

Abstract: The fluency of hips sway has recently been indicated as an index of the level of experience, muscular fatigue and mental stress of a professional athlete, as well as a possible index of the onset of a neurological syndrome (such as the Parkinson's disease), of musculoskeletal disorders, and of rehabilitation progress in post-surgical patients. In sports science as well as in biomechanics, it is of prime importance to be able to acquire measures of body movements wirelessly. In the present talk, we illustrate a smartphone-based acquisition procedure as well as a wireless interface to a personal computer. Once the data have been acquired under the form of gyroscopic signals, it is necessary to process such signals through a mathematical algorithm that is able to reveal the sought fluency feature. In the talk, we present a novel fluency index, termed "geometric jolt", whose definition is based on the calculus on manifolds and that is computed as the second covariant derivative of a velocity vector field over the special orthogonal group

**Bio:** Simone Fiori received the Italian Laurea (Dr. Eng.) cum laude in Electronic Engineering in July 1996 from the University of Ancona (Italy) and the Ph.D. degree in Electrical Engineering (circuit theory) in March 2000 from the University of Bologna (Italy). His research interests include learning theory for artificial neural networks, linear and non-linear adaptive discrete-time filter theory, image processing by neural networks, differential geometrical methods for machine learning and signal processing. He is author of more than 150 refereed scientific contributions. Dr. Fiori was the recipient of the 2001 "E.R. Caianiello Award" for the best Ph.D. dissertation in the artificial neural network field and the 2010 "Rector Award" as a proficient researcher. He is currently serving as Associate Editor for Neurocomputing (Elsevier), Computational Intelligence and Neuroscience and Cognitive Computation (Springer). Dr. Fiori was awarded several scholarships to visit the RIKEN research institute (Japan), the Tokyo University of Agriculture and Technology (Japan), the Trondheim Technical University (Norway), the University of Bari (Italy) and the Bioinformatics Institute (Singapore).

本件問い合わせ先

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