

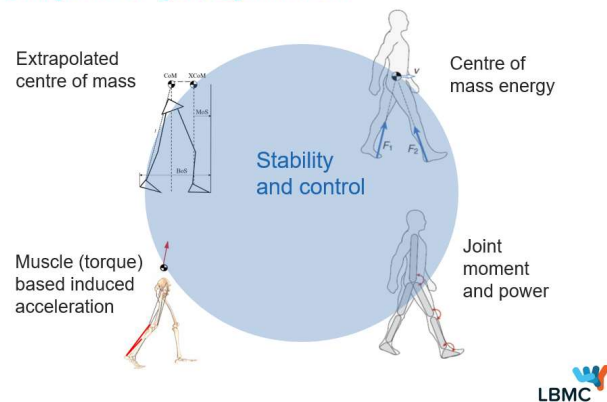
## Research seminar at University of Belgrade

*Some insight into the dynamics of human gait: applications to healthy adults, children and amputees*

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**Abstract:** A comprehensive analysis of gait dynamics can be performed with dynamic (musculo-skeletal) simulations which are complicated to develop for populations such as children or amputees. In this presentation, we review several approaches based on inverse pendulum principle and joint moment computations to analyse the stability and control of human gait. Applications to young children and amputees reveal different walking strategies.

### Analysis of gait dynamics



**Raphael Dumas:** born in March 1975, Engineer and M. Sc. in Mechanics (*INSA de Lyon*, 1998), Ph.D. in Biomechanics 2002 (*ENSAM de Paris*, 2002), currently Senior Researcher at *Université de Lyon - IFSTTAR*.

He is member of the *Laboratoire de Biomécanique et Mécanique des Chocs*, head of the research team *Biomechanics & Orthopaedics*. His research interest is in three-dimensional multi-body modelling of the human musculoskeletal system applied to joint pathologies, postural and gait impairments.

He is secretary of the *Francophone Society for Movement Analysis in Child and Adult* and member of the board of Consulting Editors of the *Journal of Biomechanics*. He is regular reviewer (> 130) for journals in the fields of biomechanics and biomedical engineering: <https://publons.com/a/1226155>

He has supervised 4 post-docs, 12 PhDs and 20 masters and has examined 17 PhDs.

He was principal investigator of two international PHC FASIC (2017) and SAKURA (2015) projects and scientific partners of two national projects ANR (2010).

He has co-authored 92 archive-journal full-papers, 7 book chapters and 2 patents. His h-index is 23: <https://www.scopus.com/authid/detail.uri?authorid=55604019400>

