

Design, biomechanical modelling and additive manufacturing of robotic devices in rehabilitation

Maxime Raison

Research Chair in Pediatric Rehabilitation Engineering
Polytechnique Montreal and CRME–Ste-Justine University Hospital Center
Montreal, Québec, Canada

ABSTRACT:

Rehabilitation and assistive robotics is a field in full swing, leading to the development of rehabilitation robotic devices, exoskeletons, plug-and-play myoelectric prostheses, and embedded clinical monitoring tools, which will all be part of the daily lives of people with musculoskeletal disorders. The development of innovative solutions in this field of application often involves the use of different domains such as the user-centered design of mechatronic systems, multibody dynamic modeling, computer vision, and artificial intelligence. This lecture will provide an overview of the field of rehabilitation and assistive robotics, presenting a point of view on current advancements and perspectives, and illustrated by examples of achievements and challenges from the research chair of Maxime Raison.

SHORT BIO:



Maxime Raison received the degree in electrical engineering and the Ph.D. Degree in Mechanical Engineering from the *University Catholique de Louvain*, Belgium. He is currently an Associate Professor in Mechanical and Biomedical Engineering with *Polytechnique Montreal*, Canada, where he teaches dynamic measurement and modeling, and rehabilitation engineering. He is the Head of the *Research Chair in Pediatric Rehabilitation Engineering* at the *CRME–Ste-Justine University Hospital Center*, Montreal. His main research interests are multibody dynamic modeling, biomechanics, and assistive robotics. He is author of ~75 scientific publications and of 4 patent filings.

DATE AND PLACE OF THE SEMINAR:

Wednesday, April 11th, 2018 at 14:30

Escola Tècnica Superior d'Enginyeria Industrial de Barcelona (ETSEIB), UPC

Diagonal 647, 08028 Barcelona

Aula CREB (4.13), 4th floor