UNIVERSITÄTS-
KINDERSPITAL
ZÜRICH

Rehabilitationszentrum
Affoltern am Albis

Personal Details

Name	Rob Labruyère
Position	Deputy Head of Research and Postdoc Human Movement Sciences
Academic Position	Dr. sc. ETH
Address	Rehabilitation Center Affoltern am Albis University Children's Hospital Zurich Mühlebergstrasse 104 CH-8910 Affoltern am Albis Switzerland
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Graduate

- 2008-11 PhD human movement sciences, ETH Zurich, Switzerland
- 2006-07 MSc human movement sciences, ETH Zurich, Switzerland
- 2002-06 BSc human movement sciences, ETH Zurich, Switzerland
- 2000-02 Studies of biology – university intermediate examination, University of Zurich, Switzerland

Scientific Interests

- Pediatric neurorehabilitation
- Assessment of physical activity
- Robotic gait training
- Functional near-infrared spectroscopy

Memberships

- European Academy of Childhood Diseases
- Society for Functional Near-Infrared Spectroscopy
- ETH Alumni Human Movement Sciences

Editorial Board Member

- Journal of NeuroEngineering and Rehabilitation

Scientific Reviewer for

- Journals: American Journal of Physical Medicine and Rehabilitation, Archives of Physical Medicine and Rehabilitation, Brain, Clinical Neurophysiology, Clinical Rehabilitation, Developmental Neurorehabilitation, Disability and Rehabilitation: Assistive Technologies, European Journal of Physical and Rehabilitation Medicine, Games for Health, Journal of NeuroEngineering and Rehabilitation,

Physiological Reports, PLOS One, Sensors, Spinal Cord, Transactions on Biomedical Engineering, Transactions on Neural Systems and Rehabilitation Engineering, Yonsei Medical Journal

- Meetings: Rehabweek 2017, fNIRS 2018
- Foundations: Fondation Leenaards, Israeli Ministry of Science and Technology

Awards and Grants

- The **Anna Müller Grocholski Prize** was awarded to Mauro Vivian for the research project „The modified Agility Run Test, Psychometric properties in children with neuromotor disorders“, authored by Mauro Vivian and Rob Labruyère. Zürich (CH), November 2018
- The **ACCENTUS Foundation** supported the project „Inertial measurement units to improve the physical activity of children“ with a grant of CHF. 177’000 (Applicants: Dr. Rob Labruyère & Prof. Roger Gassert). Zurich (CH), April 2017
- The **Anna Müller Grocholski Prize** for the research project "Monitoring physical activity during pediatric rehabilitative therapies", authored by Maria Ambühl, Huub van Hedel and Rob Labruyère. Bern, Switzerland, November 2016.
- **Best poster award** for the project “Monitoring everyday life motor activity in children” at the 5th **FZK/CRC Retreat** in Au, Switzerland, October 2015.
- The **Anna Müller Grocholski Prize** for the research project "Brain activation in children in a rehabilitation robot: a comparison of passive, assisted and active finger movements", authored by Rob Labruyère, Mischa Pfeifer and Huub van Hedel. Affoltern am Albis, Switzerland, November 2014.
- The **Children’s Research Center** supported the project “Monitoring everyday life motor activity in children” with a grant of CHF 60’000. Zurich, Switzerland, June 2014
- The **Science Award of the Rheinfelden Rehabilitation Clinic** for the paper “Requirements for and impact of a serious game for neuro-pediatric robot-assisted gait training”, authored by Rob Labruyère, Corinna Gerber, Karin Birrer-Brütsch, Andreas Meyer-Heim and Huub van Hedel. Rheinfelden, Switzerland, January 2014.
- The **Fürst Donnersmarck Stiftung** commended the PhD Thesis: New outcome measures for subjects with incomplete spinal cord injury: response time and adaptive walking for exceptional scientific achievements in the field of rehabilitation. Berlin, Germany, November 2012
- **Best oral presentation** award for the presentation “Virtual reality influences active participation during robot-assisted gait training” at the 2nd **FZK/CRC Retreat** in Au, Switzerland, October 2012

Publications

- T. Aurich-Schuler, A. Gut, R. Labruyère; “*The FreeD module for the Lokomat facilitates a physiological movement pattern in healthy people – a proof of concept study*”; Journal of NeuroEngineering and Rehabilitation, 2019;16:26
- F. M. Rast, R. Labruyère; “*Protocol of a systematic review on the application of wearable inertial sensors to quantify everyday life motor activity in people with mobility impairments”*; Systematic Reviews, 2018;7(1):174
- T. Aurich-Schuler, H. van Hedel, R. Labruyère; *„Roboterunterstützte Lokomotionstherapie bei Kindern in der Neuroreha“*; neuroreha, 2018;10(03):119
- M. Pfeifer, F. Scholkmann, R. Labruyère; “*Signal Processing in Functional Near-Infrared Spectroscopy (fNIRS): Methodological Differences Lead to Different Statistical Results”*; Frontiers in Human Neuroscience, 2018;11:641
- C. Ammann-Reiffer, R. Labruyère; Letter to the Editor on "*Effects of Antigravity Treadmill Training on Gait, Balance, and Fall Risk in Children With Diplegic Cerebral Palsy*“; American Journal of Physical Medicine & Rehabilitation, 2018;97(6):e55
- C. N. Gerber, R. Labruyère, H. van Hedel; *”Reliability and Responsiveness of Upper Limb Motor Assessments for Children with Central Neuromotor Disorders: A Systematic Review”.* Neurorehabilitation

and Neural Repair, 2016;30(1):19-39

- R. Labruyère, H. van Hedel; *"Strength training versus robot-assisted gait training after incomplete spinal cord injury: a randomized pilot study in patients depending on walking assistance".* Journal of NeuroEngineering and Rehabilitation, 2014;11:4.
- R. Labruyère, C. N. Gerber, K. Birrer-Brütsch, A. Meyer-Heim, H. van Hedel; *"Requirements for and impact of a serious game for neuro-pediatric robot-assisted gait training".* Research in Developmental Disabilities, 2013;34:3906-3915
- C. Strohrmann, R. Labruyère, C. N. Gerber, H. van Hedel, B. Arnrich, G. Tröster; *"Monitoring motor capacity changes of children during rehabilitation using body-worn sensors".* Journal of NeuroEngineering and Rehabilitation, 2013;10:83
- R. Labruyère, H. van Hedel; *"Slowed down: response time deficits in well recovered subjects with incomplete spinal cord injury".* Archives of Physical Medicine and Rehabilitation, 2013;94:2020-2026
- R. Labruyère, C. Perret; *"The level of lactic acidosis affects lactate minimum in a heart rate-based lactate minimum test"*. International Journal of Sports Medicine, 2012;33:898-902.
- A. Schück, R. Labruyère, H. Vallery, R. Riener, A. Duschau-Wicke; *"Feasibility and effects of patient-cooperative robot-aided gait training applied in a 4-week pilot trial".* Journal of NeuroEngineering and Rehabilitation, 2012;9:31
- R. Labruyère, H. van Hedel; *"Curve Walking Is Not Better Than Straight Walking in Estimating Ambulation-Related Domains After Incomplete Spinal Cord Injury".* Archives of Physical Medicine and Rehabilitation, 2012;93:796-801
- C. Perret, R. Labruyère, G. Mueller, M. Strupler; *"Correlation of heart rate at lactate minimum and maximal lactate steady state in wheelchair racing athletes"*. Spinal Cord, 2012; 50: 33-36
- R. Labruyère, H. van Hedel; *"Instrument validity and reliability of a choice response time test for incomplete spinal cord injured subjects: relationship with function.* Archives of Physical Medicine and Rehabilitation, 2011; 92: 1443-9
- R. Labruyère, A. Agarwala, A. Curt; *"Rehabilitation in spine and spinal cord trauma".* Spine, 2010; 35(21 Suppl): S259-62