

Sabata Gervasio
Associate Professor
Department of Health Science and Technology
The Faculty of Medicine
Neural Engineering and Neurophysiology
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Neuroboost



Type of address: Visiting address.

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Research profile

My research focus is to understand how sensory feedback is processed in normal or pathological situations, and to identify and treat sensory-motor impairments and disorders. I have been working on several projects investigating, for instance, the role of crossed spinal reflexes in interlimb coordination, the use of nociceptive withdrawal reflex in stroke rehabilitation and the effect of neurofeedback on musculoskeletal pain. Recently, I became passionate about methods to improve diagnosis and interventions for children with sensory motor impairments, including Sensory Processing Disorders, Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD) and Cerebral Palsy. I am currently working on the development of a protocol to identify and assess the mechanism behind sensory processing anomalies in children with ASD and ADHD.

Qualifications

Biomedical Engineering and Science, PhD, Interlimb communication during human walking: crossed responses in the gastrocnemius muscle, Department of Health Science and Technology, Aalborg University, Denmark.

1 Oct 2010 → 1 Jan 2014

Award Date: 15 Aug 2014

Project management for scientists

May 2018 → Aug 2018

University Pedagogy

Nov 2014 → Jan 2016

Electronic Engineering, Master of Science, 110/110 summa cum laude, Modeling synaptic noise of spinal motoneurons, Applied Electronics Dept., University Roma TRE

Oct 2007 → May 2010

Electronic Engineering, Bachelor of Science, Development of Human-Machine Interface: blink detection in eye gaze analysis systems, Applied Electronics Dept., University Roma TRE

Oct 2003 → Jul 2007

Research outputs

Exploring the interplay between poor well-being and physical health in youth

Gervasio, S., Jensen, B., Larsen, R. G. & Olesen, A. E., 5 Mar 2026.

EEG signatures of low back and knee joint pain during movement execution: a short report

Gervasio, S., Zarei, A. A. & Mrachacz-Kersting, N., 16 Aug 2023, In: *Frontiers in Rehabilitation Sciences*. 4, 9 p., 1216069.

Exploring the EEG Signatures of Musculoskeletal Pain

Gervasio, S., Hennings, K. & Mrachacz-Kersting, N., 1 Jan 2019, *Converging Clinical and Engineering Research on Neurorehabilitation III: Proceedings of the 4th International Conference on NeuroRehabilitation (ICNR2018), October 16-20, 2018, Pisa, Italy*. Springer Publishing Company, p. 734-738 5 p. (Biosystems and Biorobotics, Vol. 21).

Delayed muscle onset soreness in the gastrocnemius muscle attenuates the spinal contribution to interlimb communication

Gervasio, S., Finocchietti, S., Stevenson, A. J. T. & Mrachacz-Kersting, N., Nov 2018, In: *European Journal of Applied Physiology*. 118, 11, p. 2393-2402 10 p.

A novel stimulation paradigm to limit the habituation of the nociceptive withdrawal reflex

Gervasio, S., Laursen, C. B., Andersen, O. K., Hennings, K. & Spaich, E. G., May 2018, In: IEEE Transactions on Neural Systems and Rehabilitation Engineering. 26, 5, p. 1100-1107 8 p.

Sensory feedback in interlimb coordination: Contralateral afferent contribution to the short-latency crossed response during human walking

Gervasio, S., Voigt, M., Kersting, U. G., Farina, D., Sinkjær, T. & Mrachacz-Kersting, N., 2017, In: PLOS ONE. 12, 1, 24 p., e0168557.

The effect of crossed reflex responses on dynamic stability during locomotion

Gervasio, S., Kersting, U. G., Farina, D. & Mrachacz-Kersting, N., 2015, In: Journal of Neurophysiology. 114, 2, p. 1034-1040

The effect of fatigue on interlimb communication

Gervasio, S., Stevenson, A. J. T. & Mrachacz-Kersting, N., 2015, *45th Annual Meeting of the Society for Neuroscience, Neuroscience 2015, 17-21 October 2015, Chicago, IL, USA*. Society for Neuroscience, p. No. 67.16/N38

Motor control and emerging therapies for improving mobility in patients with spasticity

Gervasio, S., Macleod, C., Esteban-Herreros, E. B., Meng, L. & Tejada, M. C., 1 Jan 2014, *Emerging Therapies in Neurorehabilitation*. Springer, p. 147-169 23 p. (Biosystems and Biorobotics, Vol. 4).

Effects of muscle pain on interlimb communication: preliminary results

Gervasio, S., Finocchietti, S. & Mrachacz-Kersting, N., 2014, *Book of Proceedings, ISEK 2014, XX Congress of the International Society of Electrophysiology and Kinesiology, 15-18 July 2014, Rome, Italy*. ISEK

Interlimb communication during human walking: crossed responses in the gastrocnemius muscle

Gervasio, S., 2014, River Publishers. 85 p.

Interlimb communication during human walking: crossed responses in the gastrocnemius muscle

Gervasio, S., 2014

The effect of crossed responses on dynamic stability

Gervasio, S., Kersting, U. G., Farina, D. & Mrachacz-Kersting, N., 2014.

Contralateral afferent contribution to crossed responses during human locomotion

Gervasio, S., Voigt, M., Kersting, U. G. & Mrachacz-Kersting, N., 2013, *Annual Meeting of the Society for Neuroscience, Neuroscience 2013, 9-13 November 2013, San Diego, CA, USA*. Society for Neuroscience, p. No. 832.13/MM9

Crossed reflex reversal during human locomotion

Gervasio, S., Farina, D., Sinkjær, T. & Mrachacz-Kersting, N., 2013, In: Journal of Neurophysiology. 109, 9, p. 2335-2344

Contralateral spinal excitability after unilateral locomotor adaptation

Gervasio, S. & Mrachacz-Kersting, N., 2012, *Proceedings of the XIXth Congress of the International Society of Electrophysiology & Kinesiology, ISEK2012, 19-21 July 2012, Brisbane, Australia*. ISEK, p. 119, No. MOTC_O3.3

Extracting motor modules as a measure of interlimb coordination

Gervasio, S., Gizzi, L., Mrachacz-Kersting, N. & Farina, D., 2012, *Annual Meeting of the Society for Neuroscience, Neuroscience 2012, 13-17 October 2012, New Orleans, LA, USA*. Society for Neuroscience, p. No. 887.20/JJ3

Lower spinal interlimb communication: evidence for functional significance

Gervasio, S. & Mrachacz-Kersting, N., 2011, *Annual Meeting of the Society for Neuroscience, Neuroscience 2011, 12-16 November 2011, Washington, DC, USA*. Washington, DC: Society for Neuroscience, p. No. 923.13/VV27

Prizes

Most Promising Proposal

Frahm, S. G. (Recipient), 14 Aug 0004

Press/Media

Behandling af kroniske smerter

Gervasio, S.

08/11/2018

1 item of Media coverage

Donationer

Gervasio, S.

26/10/2018 → 26/10/2018

2 items of Media coverage

Hjernespil skal hjælpe børn, der sanser verden anderledes

Gervasio, S. & Telléus, P. K.

29/12/2023

1 item of Media coverage

I fremtiden kan du måske træne smerte væk med hjernegymnastik

Gervasio, S. & Telléus, P. K.

05/01/2024

1 item of Media coverage

Når sanserne spiller hjernen et puds: Forskere har fået et nyt syn på den autistiske hjerne

Gervasio, S.

09/02/2024

1 item of Media coverage

På bølgelængde med hjernen

Stevenson, A. J. T., Jochumsen, M. R. & Gervasio, S.

08/02/2024 → 08/02/2024

2 items of Media coverage

Projects

A direct measure of sensory processing anomalies

Gervasio, S. (PI), Mazhari-Jensen, D. S. (Project Participant), Frahm, S. (Project Participant) & Lauritsen, M. B. (Project Participant)

Simon Fougner Hartmanns Familiefond, Independent Research Fund Denmark

A neurofeedback treatment for chronic musculoskeletal pain

Gervasio, S. (PI)

Gigtforeningen

01/09/2014 → ...

A novel stimulation paradigm to reduce the habituation of the nociceptive withdrawal reflex

Gervasio, S. (Project Manager)

01/09/2014 → 30/05/2018

Interlimb coordination during human walking

Gervasio, S. (PI) & Stevenson, A. J. T. (PI)

01/10/2010 → ...