

SILVIA MUCELI

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[SILVIA MUCELI - GOOGLE SCHOLAR](#)

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EMPLOYMENT/EDUCATION

<b>Assoc. Prof. Neural Eng.</b> Chalmers University of Technology (Göteborg, Sweden)	2023 – present
<b>Assistant Professor</b> Chalmers University of Technology (Göteborg, Sweden)	2019 – 2023
<b>Research Associate</b> Imperial College London (United Kingdom)	2017 – 2019
<b>Research Scientist</b> University Medical Center Göttingen (Germany)	2011 – 2017
<b>PhD, Biomedical Science and Engineering</b> Aalborg University (Denmark)	2013
<b>MSc, Electronics Engineering</b> University of Cagliari (Italy)	2007

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MAJOR FUNDING

Chalmers	~ <b>11 M SEK</b>
Horizon Europe: WIDERA-2021-ACCESS-03 – 101079392	~ <b>250 k EUR</b>
Horizon 2020: Marie Skłodowska-Curie Individual Fellowship	~ <b>200 k EUR</b>

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SELECTED DISTINCTION AND AWARDS

<b>Senior</b> member of the <b>IEEE</b> (the world's largest technical professional organization for the advancement of technology)	2019 – present
<b>Best podium presentation</b> at the 11th International Motoneuron Meeting, Boulder, USA	2018
<b>Best poster</b> presenter award at the 7th International Motoneuron Meeting, Paris, France	2010
HP Donne & Tecnologia Prize (by Italian <b>Hewlett-Packard</b> )	2008
Excellence in Signal Processing Award (by <b>Texas Instruments</b> )	2007

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PROFESSIONAL ACTIVITIES

**Member of the Editorial Board**

- Journal of Electromyography and Kinesiology

**Reviewer for 30+ scientific journals including**

- Science Advances, Nature Communications, Nature Reviews Electrical Engineering, Journal of Physiology, Journal of Neurophysiology, Journal of Applied Physiology

**Elected ISEK Council Member**

- International Society of Electrophysiology and Kinesiology (2022– 2026)

**Opponent/external reviewer of 10+ PhD theses**

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SELECTED RECENT INVITED TALKS

- High-density surface and intramuscular EMG sensors for neuroprosthesis applications, Polytechnic University of Milan, 2024

- Interfacing spinal motor neurons via muscle recordings, Workshop on Neuromorphic Engineering and Rehabilitation, Technical University of Munich, 2023
- Spinal interfacing via muscle recordings for neuroprosthesis control, Natural interfacing and embodiment of assistive and rehabilitation technologies, RehabWeek, Singapore, 2023
- Neural interfacing: How to probe the spinal cord output via muscle recordings, UBC Exercise, Kinesiology and Health Seminar Program, The University of British Columbia (UBC) Okanagan's School of Health and Exercise Sciences, Kelowna, BC Canada, 2023
- Probing the spinal cord output with high-density electrodes implanted in muscles, Johns Hopkins Biomedical Engineering Seminar Series, 2022
- Tutorial. Surface EMG detection in space and time: best practices, ISEK-JEK Tutorials, 2021

#### PUBLICATION SUMMARY

<b>3900+</b>	Total number of <b>citations</b> (google scholar)
<b>30</b>	<b>h-index</b>
<b>46</b>	Published <b>journal articles</b> in international peer-reviewed scientific journals
<b>50+</b>	<b>Conference abstracts/papers</b>
<b>2</b>	<b>Book chapters</b>

#### 10 SELECTED JOURNAL PUBLICATIONS

- S. Muceli**, R. Merletti, Tutorial. Frequency analysis of the surface EMG signal: Best practices, *J Electromyogr Kinesiol*, In Press
- S. Muceli**, W. Poppendieck, A. Holobar, S. Gandevia, D. Liebetanz, D. Farina, Blind identification of the spinal cord output in humans with high-density electrode arrays implanted in muscles, *Science Advances*, 8(46): eaau5040, 2022
- S. Dall'Orso, T. Arichi, S. P. Fitzgibbon, A. D. Edwards, E. Burdet, **S. Muceli**, Development of functional organization within the sensorimotor network across the perinatal period, *Human Brain Mapping*, 43(7): 2249-2261, 2022
- S. Tazarella, **S. Muceli**, M. Santello, D. Farina, Synergistic organization of neural inputs from spinal motor neurons to extrinsic and intrinsic hand muscles, *J Neurosci*, 41 (32), 6878-91, 2021
- R. Merletti, **S. Muceli**, Tutorial. Surface EMG detection in space and time: best practices, *J Electromyogr Kinesiol*, 49: 102363, 2019
- S. Muceli**, W. Poppendieck, K. P. Hoffmann, S. Dosen, J. Benito-León, F. O. Barroso, J. L. Pons, D. Farina, A thin-film multichannel electrode for muscle recording and stimulation in neuroprosthetics applications, *J Neural Eng*, 16(2): 026035, 2019
- S. Muceli**, K. D. Bergmeister, K. P. Hoffmann, M. Aman, I. Vujaklija, O. C. Aszmann, D. Farina, Decoding motor neuron activity from epimysial thin-film electrode recordings following targeted muscle reinnervation, *J Neural Eng*, 16(1):016010, 2019
- S. Muceli**, W. Poppendieck, F. Negro, K. Yoshida, K. P. Hoffmann, J. E. Butler, S. C. Gandevia, D. Farina, Accurate and representative decoding of the neural drive to muscles in humans with multi-channel intramuscular thin-film electrodes, *J Physiol*, 593(17): 3789-804, 2015
- S. Muceli**, N. Jiang, D. Farina, Extracting signals robust to electrode number and shift for online simultaneous and proportional myoelectric control by factorization algorithms, *IEEE Trans Neural Syst Rehabil Eng*, 22(3): 623-33, 2014
- S. Muceli**, D. Falla, D. Farina, Reorganization of muscle synergies during multidirectional reaching in the horizontal plane with experimental muscle pain, *J Neurophysiol*, 111(8): 1615-30, 2014