

CV Casper Søndenbroe

Personal data

Born 25th of August 1991, Denmark.

Home address: Skovhuskrogen 35, 3500 Værløse, Denmark.

Education

2022: PhD, "Maintaining Muscle Innervation Through Exercise", University of Copenhagen, Denmark.

2018: MSc in Human Physiology, University of Copenhagen, Denmark.

2016: BSc in Sports Science, University of Copenhagen, Denmark.

Current appointments

2022-: Postdoc in Abigail Mackeys group at Dpt. of Clinical Medicine, University of Copenhagen, Denmark.

Past appointments

2015-2016: Research assistant at Institute of Sports Medicine Copenhagen, Bispebjerg hospital.

Research presentations

- Oral presentation: The Biomedical Basis of Elite Performance. The Physiological Society. 2022 and 2024.
- Oral presentation: European Congress of Sports Science in Paris. 2023.
- Oral presentation at Center for Healthy Ageing annual meeting in 2021.
- Oral presentation at Center for Translational Research at Bispebjerg hospital. 2022.
- Oral presentation: "New Hallmarks of Ageing" symposium organized by Center for Healthy Ageing and the Novo Nordisk Foundation. 2022.

Invited lectures

- The Danish Society for Matrix Biology. "Muscle Fibroblasts and Stem Cells Stimulate Motor Neurons in An Age and Exercise-Dependent Manner". 2024
- PhD course, "Sustainable Aging". "When does the ageing muscle lose its nerve?". 2022

Prizes

- The Danish Society for Matrix Biology, Best Poster, 2023
- Equal 5th in the Young Investigators Award, at the 2023 European Congress of Sports Science
- The Journal of Physiology's Early Investigator Prize, 2022
- HighImpactAward 2022 at Lassendagen, Bispebjerg hospital.

Funding

- Various grants from Bispebjerg and Frederiksberg Hospital (2023), Aase og Ejnar Danielsens Foundation (2023), A.P.Møller Foundation (2023) and Capital Region of Denmark (2022).
- 3-year Lundbeck Foundation postdoc fellowship (2023-2026)

Supervision

- Co-supervision of several students in relation to immunofluorescence and microscopy.
- Taught fourth semester medical students in exercise physiology, 2019.

Institutional responsibilities and outreach activities

- Member of Network of Young Scientist within Center for Healthy Ageing (2019-2022).
- Member of Lundbeck Foundation Investigator Network (2022-)
- Several public lectures on ageing, exercise and health

Scientific output

16 peer-review journal publications (10 first, 4 corresponding) including 5 published original first-author articles. GoogleScholar H-factor: 8; citations: 491. 2024).

Publication list

Original investigations and reviews

- **Soendenbroe C.**, Peter Schjerling, Cecilie J.L. Bechshøft, Rene B. Svensson, Laurent Schaeffer, Michael Kjaer, Bénédicte Chazaud, Arnaud Jacquier, Abigail L. Mackey. Muscle Fibroblasts and Stem Cells Stimulate Motor Neurons in An Age and Exercise-Dependent Manner. *bioRxiv* 2024.08.19.608387.
- **Soendenbroe C.**, Karlsen A, Svensson RB, Kjaer M, Andersen JL, Mackey AL. Marked irregular myofiber shape is a hallmark of human skeletal muscle ageing and is reversed by heavy resistance training. *J Cachexia Sarcopenia Muscle*. 2024 Feb;15(1):306-318.
- Lewis CTA, Tabrizian L, Nielsen J, Laitila J, Beck TN, Olsen MS, Ognjanovic MM, Aagaard P, Hokken R, Laugesen S, Ingersen A, Andersen JL, **Soendenbroe C.**, Helge JW, Dela F, Larsen S, Sahl RE, Rømer T, Hansen MT, Frandsen J, Suetta C, Ochala J. Physical activity impacts resting skeletal muscle myosin conformation and lowers its ATP consumption. *J Gen Physiol*. 2023 Jul 3;155(7):e202213268.
- Ahmadi M, Karlsen A, Mehling J, **Soendenbroe C.**, Mackey AL, Hyldahl RD. Aging is associated with an altered macrophage response during human skeletal muscle regeneration. *Exp Gerontol*. 2022 Nov;169:111974.
- Schmauck-Medina T, Molière A, Lautrup S, Zhang J, Chlopicki S, Madsen HB, Cao S, **Soendenbroe C.**, Mansell E, Vestergaard MB, Li Z, Shiloh Y, Opresko PL, Egly JM, Kirkwood T, Verdin E, Bohr VA, Cox LS, Stevnsner T, Rasmussen LJ, Fang EF. New hallmarks of ageing: a 2022 Copenhagen ageing meeting summary. *Ageing (Albany NY)*. 2022 Aug 29;14(16):6829-6839.
- Tsuchiya Y, Bayer ML, Schjerling P, **Soendenbroe C.**, Kjaer M. Human derived tendon cells contribute to myotube formation in vitro. *Exp Cell Res*. 2022 Aug 1;417(1):113164.
- **Soendenbroe C.**, Heisterberg MF, Schjerling P, Kjaer M, Andersen JL, Mackey AL. Human skeletal muscle acetylcholine receptor gene expression in elderly males performing heavy resistance exercise. *Am J Physiol Cell Physiol*. 2022 Jul 1;323(1):C159-C169. *Selected for APS select.*
- **Soendenbroe C.**, Dahl CL, Meulengracht C, Tamáš M, Svensson RB, Schjerling P, Kjaer M, Andersen JL, Mackey AL. Preserved stem cell content and innervation profile of elderly human skeletal muscle with lifelong recreational exercise. *J Physiol*. 2022 Apr;600(8):1969-1989.
- Tamáš M, Pankratova S, Schjerling P, **Soendenbroe C.**, Yeung CC, Pennisi CP, Jakobsen JR, Krogsgaard MR, Kjaer M, Mackey AL. Mutual stimulatory signaling between human myogenic cells and rat cerebellar neurons. *Physiol Rep*. 2021 Nov;9(21):e15077.
- **Soendenbroe C.**, Andersen JL, Mackey AL. Muscle-nerve communication and the molecular assessment of human skeletal muscle denervation with aging. *Am J Physiol Cell Physiol*. 2021 Aug 1;321(2):C317-C329. *Invited review.*
- **Soendenbroe C.**, Bechshøft CJL, Heisterberg MF, Jensen SM, Bomme E, Schjerling P, Karlsen A, Kjaer M, Andersen JL, Mackey AL. Key Components of Human Myofibre Denervation and Neuromuscular Junction Stability are Modulated by Age and Exercise. *Cells*. 2020 Apr 6;9(4):893.
- Karlsen A, **Soendenbroe C.**, Malmgaard-Clausen NM, Wagener F, Moeller CE, Senhaji Z, Damberg K, Andersen JL, Schjerling P, Kjaer M, Mackey AL. Preserved capacity for satellite cell proliferation, regeneration, and hypertrophy in the skeletal muscle of healthy elderly men. *FASEB J*. 2020 May;34(5):6418-6436.
- **Soendenbroe C.**, Heisterberg MF, Schjerling P, Karlsen A, Kjaer M, Andersen JL, Mackey AL. Molecular indicators of denervation in aging human skeletal muscle. *Muscle Nerve*. 2019 Oct;60(4):453-463.

Others (comments and book chapters)

- **Soendenbroe C.**, Højfeldt G. Scheduled for surgery? Prescription: exercise! *J Physiol*. 2024 Jan;602(2):261-262.
- Ingersen A, **Soendenbroe C.**, Ahmed HI, Borch J, Moseholm KF, Dal MH, Kusta O, Bergien SO, Gillberg L. Should young researchers engage with interdisciplinary research?: A reflective proposal from early career researchers at the Center for Healthy Aging. *Acta Physiol (Oxf)*. 2023 Nov;239(3):e14053.
- **Soendenbroe C.** Neuromuscular function in experimental disuse - a prime suspect? *J Physiol*. 2022 Nov;600(21):4539-4540.
- **Soendenbroe C.**, Mackey AL, Kjaer M. Resting in bed - how quickly does the muscle lose its nerve? *J Physiol*. 2021 Jun;599(12):2995-2996.
- **Soendenbroe C.**, Andersen JL, Mackey AL. Chapter: "Immunohistochemistry, microscopy, and image analysis of human muscle biopsies: Muscle fibre denervation as a working example", in *Neuromethods* (Springer Nature), 2023. Book chapter.