

## **Symposium Title: Exercise, Aging, and Metabolic Health: Decoding Intracellular and Extracellular Redox Signals**

### **SPEAKER 2 Abbreviated CV**

Dr. Carlos Henriquez-Olguin works as an Assistant Professor within the Department of Nutrition, Exercise, and Sports (NEXS) at the University of Copenhagen. He holds a Master's degree in Physiology and has earned a dual Ph.D. in Molecular Physiology and Biomedical Sciences from the University of Copenhagen and the University of Chile, respectively. His professional experience includes being a Clinical and Performance Exercise Physiologist at the MEDS Medical Center in Chile and a subsequent role as a Danish Diabetes Academy Postdoctoral Fellow at UCPH, where he probed into molecular mechanisms linked to insulin resistance. His research adopts an integrative perspective on the effects of exercise across various biological levels. To date, Dr. Henriquez-Olguin has authored 49 peer-reviewed publications and achieved a H-index of 23. His scientific endeavors have garnered several prestigious international accolades, including the 13th International Biochemistry of Exercise (IBEC) Young Investigator Award, the 2022 Catherine Pasquier Award from SFRR-Europe, and the 2022 Future of Redox Award from the Society for Free Radical Research International (SFRR-I). He is an active member of the European College of Sport Sciences and of the Society of Free Radical Research – Europe.

### **SPEAKER 2 Selected Publications**

1. **Henríquez-Olguín C**, Knudsen J, Raun S, Li Z, Dalbram E, Treebak J, Sylow L, Holmdahl R, Richter E, Jaimovich E, Jensen T. Cytosolic ROS production by NADPH oxidase 2 regulates muscle glucose uptake during exercise. **Nature Communications** (2019) 10:4623
2. **Henríquez-Olguín C**, et al. NADPH oxidases in skeletal muscle: Emerging roles in redox signaling and metabolism. **Antioxidant Redox Signaling** (2019) 1371-1410.
3. **Henríquez-Olguín C**, Baghersad L, Arab-Ceschia L, Raun SH, Bhatia A, Li Z, Knudsen JR, Holmdahl R, and Jensen TE. Adaptations to high-intensity interval training in skeletal muscle require NADPH oxidase 2. **Redox Biology** 24 (2019) 101188.
4. **Henriquez-Olguin C**, Meneses-Valdes R, Jensen TE. Compartmentalized muscle redox signals controlling exercise metabolism – Current state, future challenges, **Redox Biology** (2020) 35:101473.
5. Raun SH, **Henriquez-Olguín C**, Karavaeva J, Ali M, Møller L, Kot W, Castro-Mejía J, Nielsen D, Gerhart-Hines Z, Richter E & Sylow L. Housing temperature influences exercise training adaptations in mice. **Nature Communications** 11, 1560 (2020).
6. Pérez-Schindler J, Kohl B, Schneider-Heieck K, Leuchtmann AB, **Henríquez-Olguín C**, Adak V, Maier G, Delezie J, Sakoparnig T, Vargas-Fernández E, Karrer-Cardel B, Ritz D, Schmidt A, Hondele M, Jensen TE, Hiller S, Handschin C. RNA-bound PGC-1 $\alpha$  controls gene expression in liquid-like nuclear condensates. **PNAS**. (2021)7;118(36):e2105951118.
7. **Henriquez-Olguin C**, Meneses-Valdes, Raun SH, Gallero S, Knudsen JR, Li Z, Li J, Sylow L, Jaimovich E, Jensen TE. NOX2 deficiency exacerbates diet-induced obesity and impairs molecular training adaptations in skeletal muscle. **Redox Biol** (2023) 65:102842.

8. **Henriquez-Olguin C**, Meneses-Valdes R, Kritsiligkou P, Fuentes-Lemus E. From workout to molecular switches: How does skeletal muscle produce, sense, and transduce subcellular redox signals? **Free Radic Biol Med.** (2023) Nov Online ahead of print.