

# Gaia Giuriato

MSc in Adapted Sport Science  
PhD in Neuroscience

Verona – 17/05/1993

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## Professional Appointments

**Cultore della materia**  
SSD: M-EDF/02  
2023 – now

**University of Verona**  
**Dept. Of Neuroscience, Biomedicine and Movement**  
Cultore della materia (Teaching fellow) in Adapted Physical Activity

**Postdoctoral Fellow**  
SSD: M-EDF/02  
Jan 2023 – Dec 2023

**University of Verona**  
**Dept. Of Neuroscience, Biomedicine and Movement**  
Advisor: Massimo Venturelli

## Education

**PhD in Neuroscience**  
Oct 2019 – July 2023

**University of Verona**  
**Neuroscience, Psychological, and Movement Sciences**  
Advisor: Massimo Venturelli  
Dissertation: *Molecular and functional basis of sex difference in healthy young adults*

**MS in Preventive and Adapted Exercise Sciences**  
Oct 2016 – Nov 2018

**University of Verona**  
Advisor: Massimo Venturelli, Antonio Cevese  
Dissertation: *Blood flow regulation during exercise: the role of central command (Published with doi: 10.1152/jappphysiol.00898.2019)*  
Grade: 110/110 cum laude

**BS in Sport Science**  
Oct 2013 - July 2016

**University of Verona**  
Advisor: Carlo Capelli, Enrico Tam  
Dissertation: *Etiology of muscle cramps in humans: a review of the recent scientific literature (Published with doi: 10.1016/j.jelekin.2018.05.006)*

## International Experience

**Research Trainee**  
**for Prof. Ian Lanza**  
May 2022 - Aug 2022

**Mayo Clinic (Rochester, MN, USA)**  
**Division of Endocrinology, Nutrition, and Metabolism**

- Learned the immunofluorescence method to analyze muscle fiber types
- Improved skills with the mitochondrial respiration analysis

**PhD Visiting Student**  
**for Prof. Gwenaél Layec**  
Jan 2020 - July 2020

**University of Massachusetts (Amherst, MA, USA)**  
**Oxygen and Muscle Metabolism Laboratory**

- Learned to treat and perform muscle samples for mitochondrial respiration ex vivo
- Performed assessments in the MRI for mitochondria assessment in vivo
- One study published from this collaboration

**Research Associate  
for Prof. Stephen J. Ives**  
July 2018 - Oct 2018

**Skidmore College (Saratoga Springs, NY, USA)  
Health and Human Physiological Sciences**

- Conducted a study to assess the effect of Capsaicin on fatigue in healthy humans
- Conducted a study to assess the effect of Capsaicin on the microcirculation in sex difference

Four studies published from this collaboration

## Teaching Experience

### **Conducting physical exercise for health - University of Modena and Reggio Emilia**

A.A. 2023/2024, MSc in Sport and Health  
Professor on contract – 72 hours

### **Programming and conducting physical exercise - University of Verona**

A.A. 2023/2024, MSc in Preventive and Adapted Exercise Sciences  
Professor on contract – 15 hours

### **Programming and conducting adapted physical exercise - University of Verona**

A.A. 2022/2023, MSc in Preventive and Adapted Exercise Sciences  
Teaching Assistant (Lab section)

### **Adapted Physical Activity – University of Verona**

A.A. 2022/2023, BSc in Sport Science  
Teaching assistant (Lecturer)

### **Adapted Physical Activity – University of Verona**

A.A. 2018/2019 to 2022/2023, BSc in Sport Science  
Head Teaching Assistant (Lab section)

### **Master of Research in Movement Sciences - University of Verona**

A.A. 2022/2023, 2<sup>nd</sup> grade Master  
Lecturer (Bibliographical research)

## Skills

- Neuromuscular fatigue assessments (using transcranial magnetic stimulation and electrical stimulation)
- Hemodynamic assessments (using ultrasound, ECG and blood pressure monitors)
- Muscle analysis (mitochondrial metabolism in vivo with the respirometer and ex vivo with the MRI, immunofluorescence for fiber typing)
- Performance assessments (force and endurance)

## Awards and Honors

9<sup>th</sup> edition “Fondo Giancesini Emma” 2022 - 35000€

Project: “The kinetics of frailty: ways to counteract physiological decline with physical exercise”

Host Institution: University of Liverpool – MRC-Versus Arthritis Centre for Integrated Research into Musculoskeletal Ageing

### COOPERINT 2019 (University of Verona) - 5000€

Project: “The effect of nitrate supplementation during exercise in COPD patients.”

Host Institution: UMASS Amherst, Department of Kinesiology and Institute of Applied Life Sciences (USA)

## Scholarships

University of Verona

Oct 2018 – Sept 2019

Dept. Of Neuroscience, Biomedicine and Movement

Project: Marcatori bio-funzionali della fragilità fisica e cognitiva

## Peer Reviewer

- 2023: Manuscript reviewer for *Medicine & Science in Sports & Exercise* (ISSN: 0195-9131, IF: 6.289)
- 2019 - now: Manuscript reviewer for *Sport Sciences for Health* (ISSN: 18247490, 18251234; IF: 0.87)

## Professional Affiliations

- American Physiological Society (APS)
- American College of Sport Medicine (ACSM)
- Institute of Myology (IIM)
- Società italiana Scienze Motorie e Sportive (SISMES)

## Language

- Italian: native
- English: professional working proficiency (speaking, writing, reading, and listening)
- Portuguese: Limited working proficiency (reading, listening), elementary proficiency (speaking, writing)

## Scientific Publications

1. Zaleski, K. S., Gyampo, A. O., Lora, B., Tomasi, T., Lynch, M., **Giuriato, G.**, Basso, E., Finegan, E., Schickler, J., Venturelli, M., DeBlauw, J., & Ives, S. J. (2023). *Sex differences in estimates of cardiac autonomic function using heart rate variability: effects of dietary capsaicin*. *European journal of applied physiology*, 10.1007/s00421-023-05136-0. Advance online publication. <https://doi.org/10.1007/s00421-023-05136-0>
2. Pedrinolla, A., Cavedon, V., Milanese, C., Barbi, C., **Giuriato, G.**, Laginestra, F. G., Martignon, C., Schena, F., & Venturelli, M. (2022). *The role of muscle mass in vascular remodeling: insights from a single-leg amputee model*. *European journal of applied physiology*, 10.1007/s00421-022-05076-1. Advance online publication. <https://doi.org/10.1007/s00421-022-05076-1>
3. Zaleski, K., Matias, A., Gyampo, A., **Giuriato, G.**, Lynch, M., Lora, B., ... & Ives, S. J. (2023). *Does sex influence near-infrared spectroscopy-derived indicators of microvascular reactivity and the response to acute dietary capsaicin*. *Microvascular Research*, 145, 104436.
4. Zambolin, F., **Giuriato, G.**, Laginestra, F. G., Ottaviani, M. M., Favaretto, T., Calabria, E., ... & Venturelli, M. (2022). *Effects of nociceptive and mechanosensitive afferents sensitization on central and peripheral hemodynamics*

following exercise-induced muscle damage. *Journal of Applied Physiology*, 133(4), 945-958. Advance online publication. <https://doi.org/10.1152/jappphysiol.00302.2022>

5. **Giuriato, G.**, Paneroni, M., Venturelli, M., & Layec, G. (2022). *Strategies targeting the NO pathway to counteract extra-pulmonary manifestations of COPD: A systematic review and meta-analysis*. *Nitric oxide : biology and chemistry*, 128, 59–71. Advance online publication. <https://doi.org/10.1016/j.niox.2022.08.004>
6. Laginestra, F. G., Cavicchia, A., Vanegas-Lopez, J. E., Barbi, C., Martignon, C., **Giuriato, G.**, Pedrinolla, A., Amann, M., Hureau, T. J., & Venturelli, M. (2022). *Prior Involvement of Central Motor Drive does not Impact Performance and Neuromuscular Fatigue in a Subsequent Endurance Task*. *Medicine and science in sports and exercise*. Advance online publication. <https://doi.org/10.1249/MSS.0000000000002965>
7. Barbi, C., Pizzini, F. B., Tamburin, S., Martini, A., Pedrinolla, A., Laginestra, F. G., **Giuriato, G.**, Martignon, C., Schena, F., & Venturelli, M. (2022). *Brain Structural and Functional Alterations in Multiple Sclerosis-Related Fatigue: A Systematic Review*. *Neurology international*, 14(2), 506–535. <https://doi.org/10.3390/neurolint14020042>
8. Vernillo, G., Barbi, C., Temesi, J., **Giuriato, G.**, Giuseppe Laginestra, F., Martignon, C., Schena, F., & Venturelli, M. (2022). *Reliability of relaxation properties of knee-extensor muscles induced by transcranial magnetic stimulation*. *Neuroscience letters*, 782, 136694. <https://doi.org/10.1016/j.neulet.2022.136694>
9. Martignon, C., Pedrinolla, A., Laginestra, F. G., **Giuriato, G.**, Saggin, P., Tinazzi, M., Schena, F., & Venturelli, M. (2022). Does Parkinson's disease affect peripheral circulation and vascular function in physically active patients?. *Journal of applied physiology* (Bethesda, Md.: 1985), 132(5), 1223–1231. <https://doi.org/10.1152/jappphysiol.00030.2022>
10. **Giuriato, G.**, Venturelli, M., Matias, A., Soares, E. M., Gaetgens, J., Frederick, K. A., & Ives, S. J. (2022). *Capsaicin and Its Effect on Exercise Performance, Fatigue and Inflammation after Exercise*. *Nutrients*, 14(2), 232.
11. Martignon, C., Laginestra, F. G., **Giuriato, G.**, Pedrinolla, A., Barbi, C., Di Vico, I. A., Tinazzi, M., Schena, F., & Venturelli, M. (2022). Evidence that Neuromuscular Fatigue Is not a Dogma in Patients with Parkinson's Disease. *Medicine and science in sports and exercise*, 54(2), 247–257. <https://doi.org/10.1249/MSS.0000000000002791>
12. Martignon, C., Ruzzante, F., **Giuriato, G.**, Laginestra, F. G., Pedrinolla, A., Di Vico, I. A., ... & Venturelli, M. (2021). *The key role of physical activity against the neuromuscular deterioration in patients with Parkinson's disease*. *Acta Physiologica*, 231(4), e13630. <https://doi.org/10.1111/apha.13630>
13. Martignon, C., Pedrinolla, A., Ruzzante, F., **Giuriato, G.**, Laginestra, F. G., Bouça-Machado, R., ... & Venturelli, M. (2021). *Reply to the Letter "What does characterize exercise guidelines for Parkinson's disease?"*. *Aging Clinical and Experimental Research*, 33(3), 677-678. <https://doi.org/10.1007/s40520-020-01770-2>
14. Martignon, C., Pedrinolla, A., Ruzzante, F., **Giuriato, G.**, Laginestra, F. G., Bouça-Machado, R., ... & Venturelli, M. (2021). *Guidelines on exercise testing and prescription for patients at different stages of Parkinson's disease*. *Aging Clinical and Experimental Research*, 33, 221-246. <https://doi.org/10.1007/s40520-020-01612-1>
15. Laginestra, F. G., Amann, M., Kirmizi, E., **Giuriato, G.**, Barbi, C., Ruzzante, F., ... & Venturelli, M. (2021). *Electrically induced quadriceps fatigue in the contralateral leg impairs ipsilateral knee extensors performance*. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 320(5), R747-R756. doi: 10.1152/ajpregu.00363.2020
16. S. Fochi, **G. Giuriato**, T. De Simone, M. Gomez-Lira, S. Tamburin, L. Del Piccolo, F. Schena, M. Venturelli, M.G. Romanelli (2020). - *Regulation of microRNAs in satellite cell renewal, muscle function, sarcopenia and the role of exercise*. – *International Journal of Molecular Sciences*, 2020 Sep; 21(18): 6732. doi: 10.3390/ijms21186732
17. Pedrinolla, A., Venturelli, M., Fonte, C., Tamburin, S., Di Baldassarre, A., Naro, F., Varalta, V., **Giuriato, G.**, Ghinassi, B., Muti, E., Smania, N., & Schena, F. (2020). - *Exercise training improves vascular function in patients with Alzheimer's disease*. - *European journal of applied physiology*, 10.1007/s00421-020-04447-w
18. **Giuriato, G.**, Ives, S. J., Tarperi, C., Bortolan, L., Ruzzante, F., Pedrinolla, A., Martignon, C., Laginestra, F. G., Cevese, A., Schena, F., & Venturelli, M. (2020). - *Timed synchronization of muscle contraction to heartbeat enhances muscle hyperemia*. - *Journal of applied physiology* (Bethesda, Md.: 1985), 128(4), 805–812. <https://doi.org/10.1152/jappphysiol.00898.2019>

19. **Giuriato, G.**, Gundersen, A., Verma, S., Pelletier, E., Bakewell, B., & Ives, S. J. (2020). - *The Effects of Chest Wall Loading on Perceptions of Fatigue, Exercise Performance, Pulmonary Function, and Muscle Perfusion*. - *Sports* (Basel, Switzerland), 8(1), 3. <https://doi.org/10.3390/sports8010003>
20. Cavedon, V., Milanese, C., Laginestra, F. G., **Giuriato, G.**, Pedrinolla, A., Ruzzante, F., Schena, F., & Venturelli, M. (2020). - *Bone and skeletal muscle changes in oldest-old women: the role of physical inactivity*. - *Aging clinical and experimental research*, 32(2), 207–214. <https://doi.org/10.1007/s40520-019-01352-x>
21. **Giuriato, G.**, Pedrinolla, A., Schena, F., & Venturelli, M. (2018). *Muscle cramps: A comparison of the two-leading hypothesis*. *Journal of electromyography and kinesiology*, 41, 89-95. doi: 10.1016/j.jelekin.2018.05.006. Epub 2018 May 26. PMID: 29857264.

## First Author Conference Presentations

**“The Impact of Muscle Mitochondrial Uncoupling and Cardiac Output on VO<sub>2peak</sub> in Single-Leg Knee Extension Exercise” | Oral presentation**

European College of Sport Science (ECSS) Conference (Paris 2023)

**“Mitochondrial Complex II is tightly related to augmented peripheral fatigue” | Oral presentation**

American College of Sport Medicine (ACSM) Conference (San Diego 2022)

**“Muscle mitochondrial uncoupling and cardiac output predict VO<sub>2peak</sub> during single-leg knee extensor exercise” | Oral Presentation**

12° Congresso Nazionale Sismes (Padova 2021)

**“Central and Peripheral Circulation at Exercise Onset: The Role of Central Command” | Oral Presentation**

25<sup>th</sup> annual Congress of the European College of Sport Science (Sevilla 2020)

**“Molecular and functional basis of successful aging and frailty: Protocol of the SAFe project” | Oral Presentation**

8° Mountain, Sport & Health (Rovereto 2019)

**“Single Passive Leg Movement in MELAS: how resistance training can improve vascular functions” | Keynote Oral Presentation**

11° Congresso Nazionale Sismes (Bologna 2019)

**“Synchronization of muscle contraction and heartbeat” | Oral Presentation**

Lavori in Corso (Milano 2019)

**“Blood flow regulation during exercise: the role of central command” | Oral Presentation**

10° Congresso Nazionale Sismes (Messina 2018)

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**“In-vivo muscle relaxation rate, but not contraction, differs for sex” | Poster Presentation for Young Investigator Award**

14° Congresso Nazionale Sismes (Napoli, 2023)

**“Intrinsic Skeletal muscle contractility and Nrf2 in humans” | Poster Presentation**

20th IIM (Interuniversity institute of Myology) Meeting (Assisi, 2023)

**“Maximal strength in sex difference: a preliminary viewpoint” | Poster Presentation**

13° Congresso Nazionale Sismes (Milano, 2022)

**“The effect of successful aging on force expression” | Poster Presentation**

13° Congresso Nazionale Sismes (Milano, 2022)

**“Augmented peripheral fatigue is tightly related to mitochondrial complex II in young but not in old healthy individuals” | Poster Presentation**

Targeting Mitochondria (Berlin, 2022)

**“Il complesso mitocondriale II è strettamente correlato all'aumento dell'affaticamento periferico durante l'esercizio fisico” | Poster Presentation**

MIUR Dipartimenti di Eccellenza final event (Verona, 2022)

**“Mitochondrial Complex II is tightly related to augmented peripheral fatigue” | Poster Presentation**

19th IIM (Interuniversity institute of Myology) Meeting (Assisi, 2022)

**“Acute Capsaicin and Exercise Performance in Humans: Potential Neuromuscular Mechanisms” | Poster Presentation**

Experimental Biology 2021 (Virtual, 2021)

**“Effect of Synchronized Muscle Contraction and Heartbeat on Blood Flow” | Poster Presentation**

SIF-FEPS (Bologna 2019)

**“Does Capsaicin Ingestion Affect Functional Sympatholysis And Vascular Functions?” | Poster Presentation**

American College of Sport Medicine (ACSM) Conference (Orlando 2019)

## **Other Conference Presentations**

**“Advanced Technology or Manual Skills: Evidence That The Accuracy of Corticospinal Responsiveness Is Not Ameliorated by Neuronavigation” | Poster Presentation**

Experimental Biology (Philadelphia 2022)

**“Sex Differences in Estimates of Cardiac Autonomic Function Using Time Domain based Method of Heart Rate Variability: Effects of Oral Capsaicin” | Poster Presentation**

Experimental Biology (Philadelphia 2022)

**“Vascular and Skeletal Muscle Remodeling: Beyond Physical Inactivity” | Poster Presentation**

Experimental Biology (Philadelphia 2022)

**“Does Parkinson's Disease Affect Peripheral Circulation and Vascular Integrity?” | Poster Presentation**

Experimental Biology (Philadelphia 2022)

**“Racial Differences in Hemodynamic Responses to Lower Body Negative Pressure: The Effects of Capsaicin” | Poster Presentation**

Experimental Biology 2021 (Virtual, 2021)

**“Vascular Dysfunction In The Lower Limbs Of Young Black Males: Evidence From Passive Leg Movement” | Poster Presentation**

American College of Sport Medicine (ACSM) Conference (Virtual 2021)

**“Electrical Stimulation-induced Fatigue In The Contralateral Leg Impairs Endurance Exercise Performance” | Poster Presentation**

ACSM Conference (San Francisco 2020)

**“Impact of endothelial dysfunction in Parkinson's disease” | Poster Presentation**

25<sup>th</sup> annual Congress of the European College of Sport Science (Sevilla 2020)

**“Effects of Capsaicin on the Hemodynamic Responses to Handgrip Exercise: Potential Influence of Race” | Poster Presentation**

ACSM Mid-Atlantic Regional Chapter Conference (2020)

**“Electrical stimulation-induced fatigue in the contralateral leg impairs endurance exercise performance” | Oral presentation**

11<sup>o</sup> Congresso Nazionale Sismes (Bologna 2019)

**“Effects of Capsaicin on Leg Blood Flow in Responses to Passive Limb Movement” | Poster Presentation**  
ACSM Conference (Orlando 2019)

**“Limb Specificity And Near-Infrared Spectroscopy Assessment Of Reactive Hyperemia: The Potential Impact Of Oral Capsaicin” | Poster Presentation**  
ACSM Conference (Orlando 2019)

**“Indispensably evil! The role of oxygen in nitric-oxide dependent endothelial function” | Poster Presentation**  
Experimental Biology Conference (San Diego 2018)

Verona, 26/01/2024

A handwritten signature in black ink, appearing to read 'Gaia Giurato', with a long, sweeping flourish extending to the right.