

Gaia Giuriato

MSc in Adapted Sport Science

Verona – 17/05/1993

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ResearchGate: researchgate.net/profile/Gaia-Giuriato-2

Education

Ph.D. in Neuroscience

Oct 2019 – expected Dec 2022

University of Verona

Neuroscience, Psychological and Psychiatric Sciences, and Movement Sciences

Advisor: Massimo Venturelli

Dissertation: *Molecular and functional basis of sex difference in healthy young adults*

MSc 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/japplphysiol.00898.2019)

Grade: 110/110 cum laude

B.S. 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
- Three studies published from this collaboration

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 Honours

9th 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

Scholarship Holder

Oct 2019 – Sept 2020

University of Verona

Dept. Of Neuroscience, Biomedicine and Movement – Section Sport Science

Project: Marcatori bio-funzionali della fragilità fisica e cognitiva

Teaching Experience

Adapted Physical Activity (Lab section) – University of Verona

2019 - now, Undergraduate Students

Head Teaching Assistant (Lab section)

Master of Research in Movement Sciences - University of Verona

2022, 2nd grade Master

Lecturer (bibliographical research)

Programming and conducting adapted physical exercise - University of Verona

2022 - 2023, Graduate Students

Teaching Assistant (Lab section)

Scientific Publications

1. 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>
2. 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.
3. 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>
4. **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>
5. 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>
6. 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>
7. 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>
8. 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>
9. **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.
10. 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>
11. 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>
12. 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>

13. 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>
14. 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
15. 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
16. 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
17. **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>
18. **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>
19. 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>
20. **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

“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 VO2peak 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

25th 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)

“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

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

11° Congresso Nazionale Sismes (Bologna 2019)

“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)

“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

25th 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)

“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)

Peer Reviewer

- 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)

Verona, 30/11/2022

A handwritten signature in black ink, appearing to read 'Gaia Giurato', with a stylized flourish extending from the end.