

# Maristella Lunardon

## Education

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### **PhD candidate in Cognitive Neuroscience**

INTERNATIONAL SCHOOL FOR ADVANCED STUDIES - SISSA (TRIESTE, ITALY)

*October 2020 - December 2024*

- Supervisor: prof. Raffaella Rumiati. Co-supervisor: dr. Tania Cerni

### **Visiting student**

UNIVERSITY OF TUEBINGEN (GERMANY)

*January - March 2024*

- Supervisor: prof. H.C. Nuerk

### **Master degree in Cognitive Neuroscience and Clinical Neuropsychology**

UNIVERSITY OF PADOVA (ITALY)

*October 2014 - April 2017*

### **LLP Erasmus student**

JULIUS-MAXIMILIANS-UNIVERSITAET WUERZBURG (GERMANY)

*September 2012- March 2013*

### **Bachelor degree in Psychological developmental and educational sciences**

UNIVERSITY OF PADOVA (ITALY)

*October 2011- July 2014*

## Research experience

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2020 **Scholarship holder in the research project “Atypical development of number sense”**

University of Padova (Italy). Supervisor: prof. Marco Zorzi

2020 **Research assistant in the research project “Architecture of orthographic system and pathogen mechanisms in reading and writing disorders”**

Centro medico di Foniatria (Padova, Italy). Supervisor: prof. Giuseppe Cossu

2019-2020 **Internship on developmental dyscalculia and other neurodevelopmental disorders**

University of Padova (Italy). Supervisor: prof. Silvia Lanfranchi

2016-2017 **Internship in the research project “Training numerical skills in children with Down syndrome”**

University of Padova (Italy). Supervisor: prof. Marco Zorzi. Co-supervisor: dr. Francesco Sella

2013-2014 **Internship in the research project “Training of numerical skills in primary school children”**

University of Padova (Italy), Villatora primary school (Padova, Italy). Supervisor: prof. Daniela Lucangeli.  
Co-supervisor: dr. Francesco Sella

## Competences

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### LANGUAGES

- Italian: native language
- English: C2 (certified by Cambridge C1 Advanced Exam, 2020)
- German: A2

### SOFTWARE

- OS: Windows, GNU/Linux
- Programming languages: R (advanced), Matlab (intermediate), Python (beginner), Javascript (beginner)
- Statistical software: Jasp, SPSS, Jamovi

### OTHER COMPETENCES

- Science communication with children
- Scientific writing and dissemination
- Intern supervision

## Research output

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### PUBLICATIONS

- Cipora, K., Lunardon, M., Masson, N., Georges, C., Nuerk, H.-C., & Artemenko, C. (2024). The AMATUS Dataset: Arithmetic Performance, Mathematics Anxiety and Attitudes in Primary School Teachers and University Students. *Journal of Open Psychology Data*, 12: 10, pp. 1–17. <https://doi.org/10.5334/jopd.115>
- Dolfi, S., Decarli, G., Lunardon, M., De Filippo De Grazia, M., Gerola, S., Lanfranchi, S., Cossu, G., Sella, F., Testolin, A., & Zorzi, M. (2023). Weaker number sense accounts for impaired numerosity perception in dyscalculia: behavioral and computational evidence. *Developmental Science*, 27, e13538. <https://doi.org/10.1111/desc.13538>
- Lanfranchi, S., Onnivello, S., Lunardon, M., Sella, F., & Zorzi, M. (2021). Parent-based training of basic number skills in children with Down syndrome using an adaptive computer game. *Research in Developmental Disabilities*, 112, 103919. <https://doi.org/10.1016/j.ridd.2021.103919>
- Lanfranchi, S., Sella, F., Onnivello, S., Lunardon, M., & Zorzi, M. (2022). Number estimation in Down syndrome: Cognition or experience? *Research in Developmental Disabilities*, 131, 104363. <https://doi.org/10.1016/j.ridd.2022.104363>
- Lunardon, M., Cerni, T., & Rumiati, R.I. (2021). "Cognitive and Non-Cognitive Factors Influencing the Numeracy Gender Gap in Higher Education" in *Proceedings of the 2nd International Conference of the Journal Scuola Democratica "Reinventing Education", VOL. 2, Learning with New Technologies, Equality and Inclusion*, pp. 1037-1047
- Lunardon, M., Cerni, T., & Rumiati, R. I. (2022). Numeracy Gender Gap in STEM Higher Education: The Role of Neuroticism and Math Anxiety. *Frontiers in Psychology*, 13, 856405. <https://doi.org/10.3389/fpsyg.2022.856405>
- Lunardon, M., Cerni, T., & Rumiati, R. I. (2024). Field of study and gender modulation of the effect of personality and math anxiety on numeracy. *The Journal of Psychology: Interdisciplinary and Applied*. 1-29. <https://doi.org/10.1080/00223980.2024.2352706>
- Lunardon, M., Decarli, G., Sella, F., Lanfranchi, S., Gerola, S., Cossu, G., & Zorzi, M. (2023). Low discriminative power of WISC cognitive profile in developmental dyscalculia. *Research in Developmental Disabilities*, 136. <https://doi.org/10.1016/j.ridd.2023.104478>
- Lunardon, M., Lucangeli, D., Zorzi, M., & Sella, F. (2023). Math computerized games in the classroom: a Number Line Training in Primary School Children. *Progress in Brain Research*, 276, 1-33. <https://doi.org/10.1016/bs.pbr.2022.11.001>
- Sella, F., Onnivello, S., Lunardon, M., Lanfranchi, S., & Zorzi, M. (2021). Training basic numerical skills in children with Down syndrome using the computerized game "The Number Race." *Scientific Reports*, 11(1), 2087. <https://doi.org/10.1038/s41598-020-78801-5>

### PREPRINTS

Lunardon, M., Cerni, T., & Rumiati, R. I. (2024). Numeracy and physiological responses in higher education. PsyArXiv. <https://doi.org/10.31234/osf.io/adnw9>

## PREREGISTRATIONS

Lunardon, M., Artemenko, C., Rossi, S., Nuerk, H.C., & Cipora, K. (2024). Emotions and math-related attitudes in university students: a latent profile analysis. <https://doi.org/10.17605/OSF.IO/96TSV>

Lunardon, M., James-Brabham, E., Lortie-Forgues, H., & Sella, F. (2023, February 22). Is the number line an effective tool to improve mathematical skills? A systematic review and meta-analysis. <https://doi.org/10.17605/OSF.IO/S5ZF4>

## CONFERENCES (MOST RELEVANT)

Lunardon, M., Cerni, T., & Rumiati, R. (2021, Giugno). Cognitive and Non-Cognitive Factors Influencing the Numeracy Gender Gap in Higher Education [Oral presentation]. Second international conference of the journal "Scuola democratica".

Lunardon, M., Cerni, T., & Rumiati, R. (2023, Gennaio). Math anxiety, but not neuroticism, modulates cortisol effect on numeracy in non-STEM students regardless of gender [Poster session]. European Workshop in Cognitive Neuropsychology, Bressanone, Italy.

Lunardon, M., Cerni, T., & Rumiati, R. (2023, Giugno). Field of study and gender modulation of the effect of personality and math anxiety on numeracy [Oral presentation]. Mathematical Cognition and Learning Society Conference, Loughborough, England.

Lunardon, M., Cerni, T., & Rumiati, R. (2023, Settembre). Math anxiety, personality and physiological reactivity effect on numeracy in higher education students: Do field of study and gender matter? [Oral presentation]. 8th Scientific Meeting of the European Societies of Neuropsychology, Thessaloniki, Greece.

Lunardon, M., Cerni, T., & Rumiati, R. (2023, Ottobre). Personality and physiological reactivity contribution to numeracy in higher education students: Do field of study and gender matter? [Oral presentation]. The Trieste Symposium on Perception and Cognition, Trieste, Italy.

Lunardon, M., Lucangeli, D., Zorzi, M., & Sella, F. (2022, Giugno). Math computerized games in the classroom: a Number Line Training in Primary School Children [Poster session]. Mathematical Cognition and Learning Society Conference, Anverse, Belgium.

## Work and internship experience

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- December 2024 **Speaker in the project *Racconti di donne e di scienza* [Stories of Women and Science]**  
SISSA Medialab (Trieste, Italy)
- 2019 **Internship in a psychoeducational service for individuals with neurodevelopmental disorders**  
Oikia per la Famiglia social cooperative (Padova, Italy)
- 2017-2018 **Civil service volunteer**  
Africa Call Organization (Lusaka, Zambia)
- 2016-2017 **Primary school teacher**  
G. Marconi state school (Cassola, Italy)
- 2013 **Internship in a neuropsychology, psychology, rehabilitation and psychotherapy centre**  
Centro Phoenix (Romano d'Ezzelino, Italy)

## Professional development and miscellaneous

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### PROFESSIONAL MEMBERSHIPS

- Member of the Board of Psychologists of Veneto (since February 2022)
- Member of the selection board for the hand over of the International School for Advanced Studies (SISSA) nursery management (July 2023)

### PEER REVIEW

- Peer reviewer for the following journals (since 2021): Acta Psychologica; British Journal of Educational Psychology; International Journal of Developmental Disabilities; Journal of Intellectual Disability Research; Scandinavian Journal of Educational Research.
- Number of reviewed articles: 6

### SUPERVISION

- Intern supervision: 1 completed.
- Intern co-supervision: 2 completed.
- PhD students co-supervision: 1 ongoing.

### GRANTS AND AWARDS

2024 **Erasmus+ Traineeship fellowship from the School for Advanced Studies (SISSA) to visit the laboratory of prof. H.C. Nuerk (Tuebingen, Germany)**

2012-2013 **LLP-Erasmus scholarship from the University of Padova to visit the Julius-Maximilians-Universitaet Wuerzburg (Germany)**

### TRAINING

2023 **Writing scientific papers | from structure to language**  
SISSA SCICOM Masterclasses

**Computing statistical power in R using simulations**

2023 Mathematical Cognition and Learning Society conference workshop, held by dr. Hugues Lortie-Forgues

2021 **Python Programming Essentials**

On-line non credited course authorized by Rice University and offered through Coursera.

### VOLUNTARY WORK

Dal 2022 **SISSA for School speaker**

International School for Advanced Studies - SISSA (Trieste, Italy)

November 2017 **Trainer on Special Education Need challenges for scout masters**

Bassano del Grappa (Italy)

2022 **“One hour with the researcher“ speaker**

Manna primary school (Trieste, Italy)

2014-2017 **Scout master**

Bassano del Grappa (Italy)

2015-2017 **Secretary for the community representative board**

San Zeno di Cassola (Italy)

2013-2016 **Member of a Board for the Environment**

Rosà (Italy)

2008-2012 **Educator for children**

San Zeno di Cassola parish (Italy)

### OTHER WORK EXPERIENCES

2014, **Student collaborations: Daily press review; Financial resources management**  
 2022-2024 International School for Advanced Studies - SISSA (Trieste, Italy)  
 University of Padova (Italy)

2019 **Technology and creativity educator for children**  
 Codemotion (Rome, Italy)

2019 **Nursery educator**  
 Cassola solidale social cooperative (Cassola, Italy)

2018-2019 **Hostess in promotional events**  
 Ferrari E20 (Vicenza, Italy)  
 To Get SRL (Vicenza, Italy)

2012,2019 **Hotel maid**  
 Hotel Le Piramidi (Vicenza, Italy)  
 Zum Alten Gut Hotel (Wuerzburg, Germany)

2015-2019 **Summer camp educator**  
 Cassola municipality (Italy)

Since 2009 **Private teacher**  
 Private lessons to 6-to-22-year-old students to support learning and for exam preparation