CV Serena Castellotti

PERSONAL INFORMATION

Serena Castellotti

Born in Florence, Italy, on 1 August 1994

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CURRENT POSITIONS

01/01/2026 – Present	**Postdoctoral fellow** – Department of Neurosciences, Psychology, Drug Research and Child Health (NEUROFARBA), University of Florence (Italy). Research project: *"Study of the influence of contextual factors on sensory coding using psychophysical and electrophysiological techniques"*
01/01/2026 – Present	**External Collaborator** – Department of Physics, University of Pisa, Italy
01/09/2021 – Present	**Teaching assistant** in Neuroscience courses for the faculties of Psychology, Economics, and Engineering of the University of Florence.

PREVIOUS POSITIONS

13/10/2025 – 31/12/2025	**Adjunct Lecturer** in *Physiological Psychology*, School of Psychology, University of Florence
01/01/2025 – 31/12/2025	**Postdoctoral fellow** – Department of Physics, University of Pisa, Italy. Research project: *"Implications of real-time data reconstruction techniques developed on FPGAs on natural vision".*
01/09/2024 – 30/11/2024	**Visiting Researcher** (DAAD Research Grant) – Department of Psychology, University of Regensburg, Germany. Research project: "*Neural substrates of early data reduction in the visual system*"
01/02/2024 – 31/12/2024	**Postdoctoral fellow** – Department of Translational Research on New Technologies in Medicine and Surgery, University of Pisa, Italy. Research project "*Statistical contingencies in visual perception: evidence from psychophysics and pupillometry*".
01/02/2023 – 31/01/2024	**Postdoctoral fellow** – Department of Neuroscience, University of Florence, Italy. Research project: "*Study of cognitive and emotional processes in humans during the aesthetic experience, through psychophysiological and behavioral measurements*".
01/11/2019 – 31/01/2023	**PhD fellow** – University of Florence, Italy
18/09/2021 – 02/12/2021 & 01/12/2019 – 16/03/2020	**Visiting PhD student** – Institute of Neuroscience of la Timone, Marseille, France
01/2017 – 04/2017	**Research intern** – Centre for Cognitive Neuroscience, University of Turku, Turku, Finland

PRIZES AND AWARDS

2024	***DAAD scholarship award*** (German Academic Exchange Service), under the program "*Research Grants - Short-Term Grants, 2024*"

EDUCATION

11/2019 – 01/2023	**PhD in Neuroscience** – University of Florence. Degree awarded on 30 June 2023 *cum laude.* Thesis: *"Assessing visual saliency of informative local features with psychophysics and eye movements"*.
10/2016 – 11/2018	**MSc in Psychology** – University of Florence. Graduated on 30 November 2018. Final mark: 110/110 *summa cum laude.* Thesis: *"The influence of high-level visual analysis on pupil diameter"*
10/2013 – 07/2016	**BSc in Psychological Sciences** – University of Florence

QUALIFICATIONS

05/09/2022	**Psychologist** (national qualification license, Italy)

INVOLVEMENT IN NATIONAL AND EUROPEAN RESEARCH FUNDING PROGRAMMES

2025	**PRIN project** "*Real time reconstruction of data from LHC experiments with a distributed FPGA system*" funded by the European Union. Role: Postdoctoral fellow
2024	**PRIN project "***RIGHTSTRESS - Tuning arousal for optimal perception*" funded by the European Union. Role: Postdoctoral fellow
2023	**EU (PNRR) project THE** (TUSCANY HEALTH ECOSYSTEM), Spoke 3 Subproject 11: "Advanced pupillometry sensors for measuring cognitive and emotive states". Role: Postdoctoral fellow
2019 – 2024	**ERC Funding -** European Union's Horizon 2020 Grant number 832813 – "*GenPercept: Spatio-temporal mechanisms of generative perception*". Role: Junior Collaborator.

OTHER ACADEMIC ACTIVITIES

2026	**Remote Referee for the European Research Council** – ERC Advanced Grant 2025
2022 – Present	**Reviewer for peer-reviewed journals** (e.g., PLOS ONE, i-Perception, Frontiers in Psychology, Frontiers in Neuroscience, Scientific Reports).

SUPERVISING AND TUTORING ACTIVITIES

2024 – Present	**Thesis Supervisor** – Supervision of 3 Master's students (University of Pisa and University of Florence) and 5 Bachelor's students (University of Florence).
2019 – Present	**Research Trainee Mentor** – Supervision of approximately 30 undergraduate students undertaking curricular research internships in the scientific laboratories of the Department of Neuroscience, University of Florence.
2023 – 2025	**University Guidance Tutor** – University orientation activities within the PNRR project THE, "Orientamento attivo nella transizione scuola-università".
2022 – 2024	**University Orientation Speaker** – Speaker at the annual University of Florence orientation events "Sarò Matricola" for prospective students.
2018 – 2022	**Academic Tutor** – Tutoring in Statistics and Physiological Psychology for university students, University of Florence.

LANGUAGES

Italian: Mother tongue

English: C1

French: B1

WORKSHOPS AND ADVANCED TRAINING

2026 CuttingEEG Rovereto Garden 2026 – EEG and MEG Methods Multi-Hub Meeting, University of Trento, Rovereto, Italy, 21-25 September 2026.

CONFERENCES PARTICIPATION

Session Chair

2026 Italian Society for Neuroscience (SINS Young Meeting) – Session: Integrative Neuroscience: From Molecules to Neural Networks

2025 European Conference on Visual Perception (ECVP) – Session: Multisensory

Invited talks

2022 Humans and robots: how action shapes vision, Pisa, Italy, 3-4 November 2022: Saccades' trajectories deviate from informative visual features.

Talks

2026 Visual Science of Art Conference (VSAC 2026), London, United Kingdom, 20-22 August 2026: Dynamism in still images: perceptual bases for the power of diagonals in art and design.

2025 European Conference on Visual Perception (ECVP 2025), Mainz, Germany, 24-28 August 2025: Your nose knows what you're looking for!

2024 Visual Science of Art Conference (VSAC 2024), Aberdeen, Scotland, 22-24 August 2024: Beneficial effects of contemporary art fruition and personal traits.

2022 European Conference on Visual Perception (ECVP 2022), Nijmegen, the Netherlands, 28 August-1 September 2022: Saccades' trajectories deviate from optimally informative visual features.

2020 Visual Properties Driving Visual Preference workshop (VPDVP 2020), Virtual Meeting, 12 June 2020: Pupillary response to real, illusory and artistic representation of motion.

2019 Spatio-temporal mechanisms of generative perception (GENPERCEPT Kickoff Meeting & Workshop ERC Advanced Grant), Matera, Italy, 5-6 November 2019: Assessing Visual Saliency of Informative Local Features.

Visual Properties Driving Visual Preference workshop (VPDVP 2019), Liverpool, England, 13-14 June 2019: Pupillary response to paintings of the sun.

Posters

2026 European Conference on Visual Perception (ECVP 2026), Bournemouth, United Kingdom, 23-27 August 2026: Temporal dynamics of object size adaptation.

International Multisensory Research Forum (IMRF 2026), Genoa, Italy, 24-27 June 2026: Smelling the target: olfactory–visual interactions in food-related visual search.

Connecting Young Brains To Advance Neuroscience (SINS Young Meeting 2026), Naples, Italy, 22-23 June 2026: Neural time course of size adaptation.

Vision Science Society Annual Meeting (VSS 2026), St. Pete Beach, Florida, 15-19 May 2026: Efficient encoding of dynamic visual scenes based on elementary 3D features

2025 National Congress of the Italian Society for Neuroscience (SINS 2025), Pisa, Italy, 10-13 September 2025: Visual search performance depends on the congruency of olfactory sensations.

2024 European Conference on Visual Perception (ECVP 2024), Aberdeen, Scotland, 25-29 August 2024: Extraction of optimally-informative features in fast vision: an ERPs study of C1 component.

2023 European Conference on Visual Perception (ECVP 2023), Paphos, Cyprus, 27–31 August 2023: Aesthetic experience in museum vs. laboratory: psychophysiological and behavioral evidence.

Psychology, Art, and Neuroaesthetics (PAN 2023). Bergamo, Italy, 9-10 June 2023: Aesthetic experience in museum vs. laboratory: psychophysiological and behavioral evidence.

2022 Vision Science Society Annual Meeting (VSS 2022), St. Pete Beach, Florida, 13-18 May 2022: Saccades' trajectories deviate away from different kinds of salient visual features.

2021 Forum annuel du GDR Vision, Lille, France, 21-22 October 2021: Information-optimal local features automatically attract attention and gaze orientation.

European Conference on Visual Perception (ECVP 2021), Virtual Meeting, 22-27 August 2021: Information-optimal local features as attention grabbers in covert and overt tasks.

Vision Science Society Annual Meeting (VSS 2021), Virtual Meeting, 21-26 May 2021: Information-optimal local features automatically attract covert and overt orienting of attention.

2020 3rd Brainstorming Research Assembly for Young Neuroscientists (BraYn Conference), Virtual Meeting, 25-26 November 2020: Pupillary response to real, illusory and implied motion.

2018 International Conference of Sensory Plasticity, Adaptation and Development (SPADe), Pisa, Italy, 16-18 June 2018: Pupillary response to paintings of the sun.

OUTREACH AND PUBLIC ENGAGEMENT EVENTS

2024 OPEN MAD Event, Florence, 23-27 October 2024: "The healing power of art: scientific evidence on art and well-being, and programmatic actions for cultural welfare". Role: Organizer and presenter link

2024 Museo Oltre Museo (MoM), Florence, Italy, 16/23 May 2024: Art and neuroscience. Role: Invited presenter link

PUBLICATIONS

Book Chapters

2025 Castellotti, S. (2025). Arte e neuroscienze: un'indagine sugli effetti benefici dell'esperienza estetica. In F. Fabbrizzi, C. Rocca, C. Luschi, & A. Ricci (Eds.), MOM – Museo Oltre Museo (pp. 232–239). Altralinea Edizioni. ISBN 9791256760145.

2024 Castellotti, S. (2024). Neuroscience and Contemporary Art. In V. Gensini (Ed.), Mariana Ferratto. Libertà clandestine (pp. 101–105). Postmedia Books. ISBN 9788874903986.

Preprints

2026 Castellotti, S., Blini, E., Del Viva, M. M., & Zaidi, Q. (2026). Dynamism in paintings and photographs: How the power of diagonals in art overcomes the oblique effect in visual perception. *bioRxiv*. https://doi.org/10.64898/2026.07.22.739875

Research articles

2026 Castellotti, S., Ingenito, L., Castaldi, E., & Arrighi, R. (2026). Numerosity adaptation across size transformations. *Scientific Reports*. https://doi.org/10.1038/s41598-026-67458-1

2025 Castellotti, S., Gragnoli, E., Baglioni, G., Criminisi, R., Giangrasso, B., & Del Viva, M. M. (2025). Art-induced psychological well-being: Individual traits shape the beneficial effects of aesthetic experiences. *PLOS ONE*, 20(11), e0332321. https://doi.org/10.1371/journal.pone.0332321

Castellotti, S., Petrizzo, I., Arrighi, R., & Blini, E. (2025). Dimensionality reduction techniques in pupillometry research: A primer for behavioral scientists. *Behavior Research Methods*, 57, 337. https://doi.org/10.3758/s13428-025-02786-0

Castellotti, S., Soldo, M., Plank, T., Del Viva, M. M., & Greenlee, M. (2025). Visual search performance depends on the congruency of olfactory sensations. *Scientific Reports*, 15, 38116. https://doi.org/10.1038/s41598-025-25995-1

Castellotti, S., Mazzotta, G., Benedetto, A., & Del Viva, M. M. (2025). Optimal feature encoding in early vision. *Scientific Reports*, 15, 23794. https://doi.org/10.1038/s41598-025-07644-9

Castellotti, S., Castaldi, E., Blini, E., & Arrighi, R. (2025). Pupil size as a biomarker of cognitive (dys)functions: Toward a physiologically informed screening of mental states. *Acta Psychologica*, 253, 104720. https://doi.org/10.1016/j.actpsy.2025.104720

2024 Castellotti, S., & Del Viva, M. M. (2024). Neural Substrates for Early Data Reduction in Fast Vision: A Psychophysical Investigation. *Brain Sciences*, 14(8). https://doi.org/10.3390/brainsci14080753

Castellotti, S., D'Agostino, O., & Del Viva, M. M. (2024). Effectiveness of labels in digital art experience: psychophysiological and behavioral evidence. *Frontiers in Psychology*, 15. https://doi.org/10.3389/fpsyg.2024.1342667

2023 Del Viva, M. M., Castellotti, S., & Paramei, G. V. (2023). The Italian colour lexicon in Tuscany: elicited lists, cognitive salience, and semantic maps of colour terms. *Humanities and Social Sciences Communications*, 10(1), 900. https://doi.org/10.1057/s41599-023-02393-4

Castellotti, S., Szinte, M., Del Viva, M. M., & Montagnini, A. (2023). Saccadic trajectories deviate toward or away from optimally informative visual features. *iScience*, 107282. https://doi.org/10.1016/j.isci.2023.107282

Castellotti, S., D'Agostino, O., Mencarini, A., Fabozzi, M., Varano, R., Mastandrea, S., Baldriga, I., & Del Viva, M. M. (2023). Psychophysiological and behavioral responses to descriptive labels in modern art museums. *PLOS ONE*, 18, e0284149. https://doi.org/10.1371/journal.pone.0284149

D'Agostino, O., Castellotti, S., & Del Viva, M. M. (2023). Time estimation during motor activity. *Frontiers in Human Neuroscience, 17,* 1134027. https://doi.org/10.3389/fnhum.2023.1134027

Castellotti, S., D'Agostino, O., & Del Viva, M. M. (2023). Fast discrimination of fragmentary images: the role of local optimal information. *Frontiers in Human Neuroscience*, 17. https://doi.org/10.3389/fnhum.2023.1049615

2022 Castellotti, S., Montagnini, A., & Del Viva, M. M. (2022). Information-optimal local features automatically attract covert and overt attention. *Scientific Reports*, 12(1), 9994. https://doi.org/10.1038/s41598-022-14262-2

Castellotti, S., D'Agostino, O., Biondi, A., Pignatiello, L., & Del Viva, M. M. (2022). Influence of Motor and Cognitive Tasks on Time Estimation. *Brain Sciences*, 12(3). https://doi.org/10.3390/brainsci12030404

2021 Castellotti, S., Scipioni, L., Mastandrea, S., & Del Viva, M. M. (2021). Pupil responses to implied motion in figurative and abstract paintings. *PLOS ONE*, 16(10), 1–20. https://doi.org/10.1371/journal.pone.0258490

Castellotti, S., Francisci, C., & Del Viva, M. M. (2021). Pupillary response to real, illusory, and implied motion. *PLOS ONE, 16(7),* e0254105. https://doi.org/10.1371/journal.pone.0254105

Castellotti, S., Montagnini, A., & Del Viva, M. M. (2021). Early visual saliency based on isolated optimal features. *Frontiers in Neuroscience, 15,* 645743. https://doi.org/10.3389/fnins.2021.645743

2020 Castellotti, S., Conti, M., Feitosa-Santana, C., & Del Viva, M. M. (2020). Pupillary response to representations of light in paintings. *Journal of Vision*, *20*(10):14, 1–18. https://doi.org/10.1167/jov.20.10.14.

2019 Grassini, S., Revonsuo, A., Castellotti, S., Petrizzo, I., Benedetti, V., & Koivisto, M. (2019). Processing of natural scenery is associated with lower attentional and cognitive load compared with urban ones. *Journal of Environmental Psychology*, *62*, 1-11. https://doi.org/10.1016/j.jenvp.2019.01.007

Abstracts

2025 Castellotti, S., Soldo, M., Plank, T., et al. Your nose knows what you're looking for! The 47th European Conference on Visual Perception (ECVP 2025). *Perception:* 55(1_s): 117–118. abstract

Lin, Y.S. Castellotti, S., Del Viva, M.M., et al. Contour erasure facilitates artificial scotoma filling-in. The 47th European Conference on Visual Perception (ECVP 2025). *Perception*, 55(1_s): 106–107. abstract

2024 Castellotti, S., Mazzotta, G., Benedetto, A., et al. Extraction of optimally-informative features in fast vision: an ERPs study of C1 component. The 46th European Conference on Visual Perception (ECVP 2024). *Perception*, 53(1_s): 156. abstract

Del Viva, M. M., D'Agostino, O., Castellotti, S. The influence of task engagement on time perception. The 46th European Conference on Visual Perception (ECVP 2024). *Perception*, 53(1_s): 89. abstract

Castellotti, S., D'Agostino, O., Criminisi, R., et al. Beneficial effects of contemporary art fruition and personal traits. The 10th Visual Science of Art Conference (VSAC 2024). *Art & Perception*, 13(1), 1–83. abstract

2023 Castellotti, S., D'Agostino, O., & Del Viva, M. M. Aesthetic experience in museum vs. laboratory: psychophysiological and behavioral evidence. The 45th European Conference on Visual Perception (ECVP 2023). *Perception*, 52(1_s): 188. abstract

D'Agostino, O., Castellotti, S., & Del Viva, M. M. Time estimation during motor activity. The 45th European Conference on Visual Perception (ECVP 2023). *Perception*, 52(1_s): 125. abstract

2022 Castellotti, S., Szinte, M., Del Viva, M. M., et al. Saccades' trajectories deviate from optimally informative visual features. The 44th European Conference on Visual Perception (ECVP 2022). *Perception, 51*(1_s)*, 180*. abstract

Castellotti, S., Szinte, M., Montagnini, A., et al. Saccades' trajectories deviate away from different kinds of salient visual features. *Journal of Vision* 2022; 22(14):3874. abstract

Del Viva, M. M., Castellotti, S., D'Agostino, O., et al. Which salient features attract our gaze in fast vision of natural scenes? *Journal of Vision* 2022; 22(14):3934. abstract

2021 Castellotti, S., Montagnini, A., Del Viva, M. M. Information-optimal local features as attention grabbers in covert and overt tasks. 43rd European Conference on Visual Perception (ECVP 2021). *Perception*, *50*(1_s): 127. abstract

Del Viva, M. M., Castellotti, S., D'Agostino, O. Role of local features in fast discrimination of fragmentary images. 43rd European Conference on Visual Perception (ECVP 2021). *Perception, 50*(1_s): 178–179. abstract

Castellotti, S., Montagnini, A., Del Viva, M. M. Information-optimal local features automatically attract covert and overt orienting of attention. *Journal of Vision* 2021; 21(9):1842. abstract

PRESS AND MEDIA COVERAGE

2025 Castellotti et al., 2025, PLOS ONE — coverage by institutional media: NEUROFARBA website

2023 Castellotti et al., 2023, PLOS ONE — selected media coverage: UNIFI Magazine (institutional), Phys.org (science news platform), Nature Italy (research highlights), La Repubblica (national newspaper).