

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



-AI FINI DELLA PUBBLICAZIONE-

INFORMAZIONI PERSONALI

Nome e Cognome	Giulia Arena
Data di nascita	-
Qualifica	Master's degree
Amministrazione	-
Telefono	-
Telefono cellulare	-
Indirizzo posta elettronica	giulia.arena@uniroma1.it
Indirizzo Pec e	
Incarico attuale	PhD student

ISTRUZIONE E FORMAZIONE

• Date (da – a)	Oct 2020-Oct 2022
• Nome e tipo di istituto di istruzione o formazione	Sapienza University of Rome
• Qualifica conseguita	Master's degree in Neurobiology

ESPERIENZA LAVORATIVA

• Date (da – a)	[2022-ongoing]
• Nome e indirizzo del datore di lavoro	Prof. Aldo Genovesio's Neurophysiology Lab Sapienza University of Rome
• Tipo di azienda o settore	
• Tipo di impiego	PhD Student
• Principali mansioni e responsabilità	Research activity focused on the analysis of neurophysiological data in large-scale datasets in mice and non-human primates, with attention given to the Zona Incerta

MADRELINGUA

Italian

ALTRE LINGUE

• Capacità di lettura	[English] [Excellent]
• Capacità di scrittura	[Excellent]
• Capacità di espressione orale	[Proficient]

CAPACITÀ E COMPETENZE

TECNICHE

Con computer, attrezzature specifiche, macchinari, ecc.

Technical skills

In vivo electrophysiology, spike-sorting and neurophysiological data analysis.
Large-scale neurophysiological dataset manipulation.
Correlation analysis: cross-correlations, JPSTH analysis, cell assembly identification.
Statistical analysis of neurophysiological data (Anova, FDR, ecc).
Stereotaxic surgery and intra-cerebral injections.
Behavioral tests for memory and anxiety: novel object recognition and open field.
Manual and automated behavioral scoring.
Intracardiac perfusion and brain collection.
Genetical analysis and genotyping: PCR.
Histological analysis: brain slicing and immunofluorescence.
Microscopy analysis: confocal microscopy, bright-field microscopy.
Immuno-positive cell counting with digital tools and machine learning algorithms.

Digital skills

Programming languages: MATLAB (good), Python (beginner).
Neurophysiological raw data analysis and (spike sorting).
Toolboxes for neurophysiological analysis.
Algorithms for identification of coordinative or synaptic relationships.
Machine Learning algorithms for automated behavioral scoring.
Machine Learning algorithms for automated cell counting.
Softwares for image data analysis.
Softwares for statistical analysis.
Microsoft Office Suite.
Graphical softwares.

ALTRO (PARTECIPAZIONE A

CONVEGNI, SEMINARI, PUBBLICAZIONI,
COLLABORAZIONI A RIVISTE, ECC. ED
OGNI ALTRA INFORMAZIONE CHE IL
DIRIGENTE RITIENE DI DOVER
PUBBLICARE)

Peer Reviewed Publications

Ceccarelli F, Londei F, Arena G, Genovesio A, Ferrucci L. Home-Cage Training for Non-Human Primates: An Opportunity to Reduce Stress and Study Natural Behavior in Neurophysiology Experiments. *Animals*. 2025.
Ceccarelli F, Ferrucci L, Londei F, Arena G, Siano F, Di Bello F, Ramawat S, Tsujimoto S, Brunamonti E, Genovesio A. Cell types implement multiple coding schemes in distinct prefrontal cortex areas during goal-directed behavior. *Prog Neurobiol*. 2025.
Ferrucci L, Ceccarelli F, Londei F, Arena G, Elyasizad L, Nougaret S, Genovesio A. Reward monitoring in the frontopolar cortex of macaques. *Sci Rep*. 2025.
Londei F, Ceccarelli F, Arena G, Ferrucci L, Russo E, Brunamonti E, Genovesio A. Out of the single-neuron straitjacket: neurons within assemblies change selectivity and their reconfiguration underlies dynamic coding. *J Physiol*. 2025
Arena G, Londei F, Ceccarelli F, Ferrucci L, Borra E, Genovesio A. Disentangling the identity of the zona incerta: a review of the known connections and latest implications. *Ageing Res Rev*. 2024
Londei F*, Arena G*, Ferrucci L, Russo E, Ceccarelli F, Genovesio A. Connecting the dots in the zona incerta: A study of neural assemblies and motifs of inter-area coordination in mice. *iScience*. 2023

Poster Presentations at Conferences & Events

2022 Brayn Conference – Rome “From anatomy to functional connectivity in the mouse brain assessed through assembly detection methods”
2023 Italian Society for Neuroscience (SINS) 2023 National PhD Meeting – Turin “Insights from the Zona Incerta: inter-area coordination assessed through cell assembly detection.”
2024 Behavioral Neuroscience Conference – Rome “Cell assembly-based assessment of brain-wide functional connectivity”
2024 Italian Society of Physiology (SIF) National Congress – Rome “A cell assembly-based strategy for whole brain interrogation of inter-regional coordination”
2025 The Brain Conference: Frontiers of Theoretical Neuroscience – Copenhagen “Loop-

like motifs embedding neuronal hubs as a key architecture to promote functional integration”
2025 Neuro-Inspired Computation Course – Tokyo “Cell assembly-based investigation of
brain wide coordination in mice”

Oral presentations at Conferences

2023 Italian Society for Neuroscience (SINS) 2023 National Congress – Turin “Insights from
the Zona Incerta: inter-area coordination assessed through cell assembly detection.”

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi del D.Lgs. 196/2003 e del GDPR (Regolamento UE
2016/679).

Roma, 18/09/2025

Giulia Arena