



Lorenzo Curti

WORK EXPERIENCE

Guido Mannaioni - Department of Neuroscience, Psychology, Drug and Child Health Area (NEUROFARBA) – Firenze, Italy

Postdoctoral Fellow

[15/11/2025 – Current]

Camilla Bellone - University of Geneva, Department of Basic Neurosciences – Geneva, Switzerland

Visiting PhD Student

[01/02/2025 – 31/07/2025]

1. Observation and analysis of behavioral tests in mice.
2. Fiber photometry

Guido Mannaioni - Department of Neuroscience, Psychology, Drug and Child Health Area (NEUROFARBA) – Florence, Italy

Post-Graduate Scholarship Researcher

[01/05/2021 – 31/10/2022]

EDUCATION AND TRAINING

PhD in Drug Research and Innovative Treatments

University of Florence - Department of Neuroscience, Psychology, Drug and Child Health Area [01/11/2022 – 11/02/2026]

City: Florence | **Country:** Italy | **Website:** <https://www.dottorato-areafarmaco.unifi.it/> | **Field(s) of study:** Pharmacology ; Neuroscience | **Thesis:** Multilevel investigation of the Shank3 mouse model of ASD reveals novel insight into disease mechanisms and therapeutic perspectives

1. Observation and analysis of behavioral tests in rodents.
2. Electrophysiology (Patch-clamp technique).
3. Analysis of electrophysiological traces (Clampfit, OriginLab).
4. Use of various software and programs (GraphPad, Clampfit, ImageJ, OriginLab).
5. Reading, interpretation, comparison, and tabulation of experimental data.
6. Ability to work in a team

Master's Degree in Molecular and Applied Biology

Univeristy of Florence [09/2018 – 03/2021]

City: Florence | **Country:** Italy | **Field(s) of study:** Natural sciences, mathematics and statistics: • Biology | **Final grade:** 110 Cum Laude | **Thesis:** Role of AMPA receptors in mechanisms of Ethanol Neurotoxicity in Organotypic Hippocampal Slice Cultures

Strong background in molecular and cellular biology, with solid scientific and operational expertise in key disciplines such as Molecular Biology, Proteomics, Genetics, Cell Physiology, Pharmacology, and Toxicology. In-depth knowledge of scientific research methodology and well-developed critical skills in analyzing research projects, experimental protocols, and results, ensuring the proper conduct of both basic and applied biological research. Comprehensive understanding of current and emerging technologies, instrumental methodologies, analytical tools, and data acquisition and analysis techniques in the field of molecular and cellular biology of microorganisms and cellular organisms.

Bachelor's Degree in Biological Sciences

University of Florence [09/2015 – 10/2018]

Field(s) of study: Natural sciences, mathematics and statistics: ● Biology | **Final grade:** 109 | **Thesis:** Study of the expression of the TRPA1 and TRPV1 channels in human Schwann cells

Comprehensive foundation in the core disciplines of Biological Sciences, encompassing Mathematics, Chemistry, Physics, Microbiology, and the Biology of plant and animal organisms at morphological, functional, cellular, molecular, genetic, and evolutionary levels. Skilled in applying scientific research methodologies and a range of fundamental laboratory techniques, including PCR, optical microscopy, cell culture, immunofluorescence, and Western blotting.

PUBLICATIONS

[2025]

Gut microbiota dysbiosis affects intestinal sensitivity through epithelium-to-neuron signaling: novel insights from a colon organoid-based model to improve visceral pain therapy

Authors: Margiotta F., Lucarini E., Toti A., Curti L., Masi A., Mello T., Le Gall G., Mattei G., Magi A., Vauzour D., Mannaioni G., Di Cesare Mannelli L., Ghelardini C. | **Journal Name:** Gut Microbes

[2025]

Prenatal ethanol exposure impairs hippocampal plasticity and cognition in adolescent mice

Authors: Curti L., Rizzi B., Mottarlini F., Bigagli E., Ilari A., Costa A., Sordi V., Ranieri G., Luceri C., Cannella N., Ubaldi M., Masi A., Fumagalli F., Caffino L., Mannaioni G., Gerace E. | **Publisher:** Progress in Neuro-Psychopharmacology and Biological Psychiatry

[2025]

Prolonged incubation with Δ^9 -tetrahydrocannabinol but not with cannabidiol induces synaptic alterations and mitochondrial impairment in immature and mature rat organotypic hippocampal slices

Authors: Mazzantini C., Curti L., Lana D., Masi A., Giovannini M. G., Magni G., Pellegrini-Giampietro D. E., Landucci E. | **Journal Name:** Biomedicine & Pharmacotherapy

[2025]

All-optical mapping reveals distributed suppression of cortical sensory responses after optogenetic silencing

Authors: Ambrosone M., Montagni E., Resta F., Ulivi T., Curti L., Polverini F., Mazzamuto G., Mannaioni G., Masi A., Pavone F. S., Allegra Mascaro A. L. | **Publisher:** Brain Stimulation

[2025]

Age-dependent cortical overconnectivity in Shank3 mice is reversed by anesthesia

Authors: Montagni E., Ambrosone M., Martello A., Curti L., Polverini F., Baroncelli L., Mannaioni G., Pavone F. S., Masi A., Allegra Mascaro A. L. | **Journal Name:** Translational Psychiatry

[2024]

Pharmacological blockage of NOP receptors decreases ventral tegmental area dopamine neuronal activity through GABAB receptor-mediated mechanism

Authors: Petrella M., Borruto A. M., Curti L., Domi A., Domi E., Xu L., Barbier E., Ilari A., Heilig M., Weiss F., Mannaioni G., Masi A., Ciccocioppo R. | **Journal Name:** Neuropharmacology

[2024]

Differential pattern of neurotoxicity induced by the gliadin peptides p31-43 and p57-68 in in vitro model of epilepsy

Authors: Gerace E., Resta F., Curti L., Di Domizio A., Ranieri G., Becatti M., Renzi D., Calabrò A., Mannaioni G. | **Publisher:** Biochemical Pharmacology

[2024]

Chemogenetic activation or inhibition of histaminergic neurons bidirectionally modulates recognition memory formation and retrieval in male and female mice

Authors: Costa A., Ducourneau E., Curti L., Masi A., Mannaioni G., Hardt L., Biyong E. F., Potier M., Blandina P., Trifilieff P., Provensi G., Ferreira G., Passani M. B. | **Journal Name:** Scientific Reports

[2023]

Ethanol-induced AMPA alterations are mediated by mGLU5 receptors through miRNA upregulation in hippocampal slices

Authors: Gerace E., Curti L., Caffino L., Bigagli E., Mottarlini F., Castillo Díaz F., Ilari A., Luceri C., Dani C., Fumagalli F., Masi A., Mannaioni G. | **Journal Name:** European Journal of Pharmacology

[2022]

Acute rapamycin rescues the hyperexcitable phenotype of accumbal medium spiny neurons in the valproic acid rat model of autism spectrum disorder

Authors: Iezzi D., Curti L., Ranieri G., Gerace E., Costa A., Ilari A., La Rocca A., Luceri C., D'Ambrosio M., Silvestri L., Scardigli M., Mannaioni G., Masi A. | **Journal Name:** Pharmacological Research

[2022]

Moderate ethanol drinking is sufficient to alter Ventral Tegmental Area dopamine neurons activity via functional and structural remodeling of GABAergic transmission

Authors: Ilari A., Curti L., Petrella M., Cannella N., La Rocca A., Ranieri G., Gerace E., Iezzi D., Silvestri L., Mannaioni G., Ciccocioppo R., Masi A. | **Journal Name:** Neuropharmacology

CONFERENCES AND SEMINARS

[09/11/2021 - 11/11/2021] Virtual Modality

XIX Conference of the Italian Society of Neuroscience “Characterization of the electrophysiological abnormalities in the intrinsic and synaptic excitability of nucleus accumbens medium spiny neurons in the VPA autism rat model”. **Curti L.**, Iezzi D., Ilari A., Ranieri G., Losso L., La Rocca A., Gerace E., Mannaioni G., Masi A. Poster.

[09/11/2021 - 11/11/2021] Virtual Modality

XIX Conference of the Italian Society of Neuroscience “Ethanol neurotoxicity is mediated by changes in ampa receptor expression, surface localization and functional properties”. Gerace E., Ilari A., Caffino L., **Curti L.**, Buonvicino D., Lana D., Ranieri G., Losso L., La Rocca A., Giovannini M.G., Ciccocioppo R., Fumagalli F., Pellegrini-Giampietro D.E., Masi A. & Mannaioni G. Poster

[25/10/2021 - 27/10/2021] Bologna

Conference of Italian Society of Toxicology (SITOX). “Calcium-permeable AMPA receptors as possible therapeutic target for ethanol withdrawal neurotoxicity: preclinical studies in rat hippocampal slices”. Gerace E., Ilari A., Caffino L., **Curti L.**, Lana D., Losso L., Buonvicino D., Giovannini M.G., Fumagalli F., Masi A., Mannaioni G. Oral communication.

[09/07/2022 - 13/07/2022] Paris

FENS (Federation of European Neuroscience Societies) Forum 2022 “Ethanol-induced miRNA 137 and 501-3p modulate AMPA neurotransmission in developing hippocampal slices in vitro”. **Curti L.**, Caffino L., Bigagli E., Castillo Díaz F., Mottarlini F., Fumagalli F., Iurato La Rocca A., Masi A., Mannaioni G., Gerace E. Poster.

[27/01/2023 - 27/01/2023] Parma

COLOTAN 3rd Symposium "Gut Disorders and Possible Impact on Colonic Drug Targeting. Use of murine colon organoids to mimic dysbiosis-associated pain in vitro". A. Toti, E. Lucarini, F. Margiotta, L. Micheli, V. Ferrara, C. Ciampi, D. Venturi, **L. Curti**, L. Di Cesare Mannelli, C. Ghelardini. [Poster](#).

[16/11/2022 – 19/11/2022] Roma

41st National Congress of the Italian Society of Pharmacology (SIF) "Morphological and Functional alterations of colon organoids treated with faecal supernatants from viscerally hypersensitive mice affected by colitis". Margiotta F., Toti A., Lucarini E., Micheli L., Ferrara V., Ciampi C., **Curti L.**, Di Cesare Mannelli L., Ghelardini C. [Poster](#).

[05/09/2023 – 08/09/2023] Urbino

XXV Conference of Young SIF Pharmacologists "Ethanol exposure during neurodevelopment on AMPA-mediated synaptic transmission and function". **Curti L.**, Caffino L., Bigagli E., Castillo Díaz F., Mottarlini F., Fumagalli F., Masi A., Mannaioni G., Gerace E. [Oral Communication](#)

[09/09/2023 – 13/09/2023] Granada

IBRO International Brain Research Organization "DRG neurons sensitization is induced by altered colon organoids: a novel in vitro model to mimic dysbiosis-associated pain". Toti A., Elena L., Margiotta F., Micheli L., Ferrara V., Ciampi C., Venturi D., Adamo E., **Curti L.**, Di Cesare Mannelli L., Ghelardini C. [Poster](#).

[14/09/2023 – 17/09/2023] Torino

20th National Congress of the Italian Society for Neuroscience (SINS) "The therapeutic potential of psychedelics on the behavioral and synaptic abnormalities of the Shank3 mouse model of Autism Spectrum Disorder". **Curti L.**, Montagni E., Ambrosone M., Franceschini A., Costa A., Amendola M., Iurato La Rocca A., Silvestri L., Allegra Mascaro A. L., Mannaioni G., Masi A. [Poster](#).

[14/09/2023 – 17/09/2023] Torino

20th National Congress of the Italian Society for Neuroscience (SINS) "Sensory hypo-responsiveness is associated to cortical functional hyperconnectivity in SHANK3B +/- mice" Montagni E., Martello A., **Curti L.**, Scaglione A., Baroncelli L., Masi A., Pavone F., Allegra Mascaro A. L. [Poster](#).

[25/06/2024 – 29/06/2024] Torino

FENS (Federation of European Neuroscience Societies) Forum 2024 "Prenatal ethanol exposure induces long-term hippocampal AMPAergic dysfunction". **Curti L.**, Caffino L., Mottarlini F., Rizzi B., Castillo Díaz F., Costa A., Sordi V., Fumagalli F., Masi A., Mannaioni G., Gerace E. [Poster](#).

[09/09/2024 – 11/09/2024] Hinxton

2°Organoids: Advances and Applications "Human iPSC-derived dorsal root ganglia organoids: a novel in vitro model to investigate chemotherapy-induced peripheral neuropathy" D. Venturi, A. Toti, F. Margiotta, E. Lucarini, **L. Curti**, F. Polverini, A. Masi, F. Cherchi, L. Frulloni, E. Coppi, F. Carozzo, T. Mello, L. Di Cesare Mannelli. [Poster](#)

[13/11/2024 – 16/11/2024] Sorrento

42nd National Congress of the Italian Society of Pharmacology (SIF) "The gliadin peptides p31–43 and p57–68 induce differential pattern of neurotoxicity in in vitro model of kainate-induced epilepsy". **Curti L.**, Resta F., Di Domizio A., Becatti M., Renzi D., Calabrò A., Mannaioni G., Gerace E. [Poster](#)

[10/09/2025 – 13/09/2025] Pisa

21st National Congress of the Italian Society for Neuroscience (SINS). "Targeting somatosensory alterations in the Shank3 ASD model with hallucinogens". **Curti L.**, Povernini F., Ambrosone M., Ulivi T., Montagni E., Scianaro V., Iurato La Rocca A., Mannaioni G., Allegra Mascaro A. L., Masi A. [Poster](#).

[10/09/2025 – 13/09/2025] Pisa

21st National Congress of the Italian Society for Neuroscience (SINS) "Shank3Δ13–16 mice exhibit impaired social memory and hippocampal network activity". Povernini F., **Curti L.**, Scianaro V., Cerullo M., Mannaioni G., Masi A. [Poster](#).

[21/10/2025 – 22/10/2025] Genova

Convegno monotematico SIF “Social Dysfunctions: Exploring Mechanisms and Advancing Therapeutic Interventions”. “Shank3Δ13–16 mice exhibit impaired social memory and hippocampal network activity”. Povernini F., **Curti L.**, Scianaro V., Cerullo M., Mannaioni G., Masi A. Poster.

[21/10/2025 – 22/10/2025] Genova

Convegno monotematico SIF “Social Dysfunctions: Exploring Mechanisms and Advancing Therapeutic Interventions”. “Prenatal Alcohol Exposure shapes cortical development and alters social behaviors in adolescent mice”. Rizzi B., Resta F., Scaglione A., Mottarlini F., **Curti L.**, Costa A., Sordi V., Fumagalli F., Mannaioni G., Pavone F. S., Caffino L., Gercare E. Poster.

[20/04/2026 – 21/04/2026] Camerino

Convegno monotematico SIF “New perspectives in the study of substance use disorders: From basic mechanisms to pharmacotreatments” “Effects of Early Ethanol Exposure on Brain Development: Mechanistic Insights and Functional Behavioral Implications”. **Curti L.**, Rizzi B., Polverini F., Resta F., Mottarlini F., Costa A., Scianaro V., Leggieri G., Scaglione A., Masi A., Fumagalli F., Pavone F.S. , Mannaioni G., Caffino L., Gerace E. Oral Communication

HONOURS AND AWARDS

[02/2025] EMBO

EMBO Scientific Exchange Grant

SCIENTIFIC SOCIETY MEMBERSHIPS

[2022 – Current]

Italian Society of Neuroscience (SINS)

[2023 – Current]

Società Italiana di Farmacologia (SIF)

[2023 – 2024]

Società Italiana di Tossicologia (SITOX)

PARTECIPATION TO FOUNDED GRANTS

[15/11/2023 – 15/11/2025]

PRIN-2022 (Protocollo n. 2022X9X5MS).

Title: miRNA137 as a mediator of adolescent alcohol drinking and comorbid disorders caused by prenatal alcohol exposure

Principal Investigator: Prof. Guido Mannaioni

SKILLS

Soft and Research Skills

Teamwork and Collaboration in Laboratory Settings / Critical Thinking and Problem–Solving / Project Planning and Experimental Protocol Optimization / Scientific Writing and Presentation

Laboratory Techniques

Electrophysiology / Animal Handling and Experimental Models / Behavioral testing and monitoring / Immunofluorescence and Immunohistochemistry / PCR / Animal Surgery (i.p. and s.c. injections, Stereotaxic Procedures, Fiber Implants)

Analysis and Data Processing

Data Acquisition and Quantitative Analysis / Microsoft Office package (Word, Excell, Powerpoint) / Software (OriginLab, GraphPad Prism, ImageJ/Fiji, Clampfit/pCLAMP)

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DRIVING LICENCE

Driving Licence: B1

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L'originale della presente dichiarazione è conservato presso il Dipartimento di Neuroscienze, Psicologia, Area del Farmaco e Salute del Bambino (NEUROFARBA).