

Curriculum Vitae

Laura Clara Grandi

Personal Information

Name: Laura Clara Grandi

Current Position

October 2025-Present

Research Volunteer at the University of Milan-Bicocca, Milan, Italy. I work in the neurophysiological laboratory of Prof. Andrea Becchetti:

- Electrophysiological research in physiological and pathological conditions, *in vitro*.
- Use of neuronal cultures and HEK cell lines transfected with ionic channels.
- Established and maintained healthy cell lines for experimental studies.
- Optimized transient transfections using plasmids encoding wild-type and mutant nicotinic receptors.
- Managed and bred animal colonies, ensuring proper husbandry and experimental readiness.
- Performed genotyping of animal models to support experimental design.
- Implemented and conducted functional studies using narcolepsy animal models.

Previous Job Experience

March 2020-Present

Research Fellow at the University of Milan-Bicocca, Milan, Italy. I work in the neurophysiological laboratory of Prof. Andrea Becchetti. Electrophysiological research in physiological and pathological (narcolepsy) conditions, *in vitro*; use of neuronal cultures and HEK cell lines transfected with ionic channels; managed and bred animal colonies, ensuring proper husbandry and experimental readiness.

July 2023-January 2024 Maternity leave.

2022 and 2024

Occasional Job: Tutor for “*Piano Lauree Scientifiche PLS*”, project at University of Milano Bicocca for high school students with the aim to explain them the techniques used in the laboratory.

March 2017- August 2019

Postdoc Research Fellow at Neurocenter of Southern Switzerland (NSI), Laboratory for Biomedical Neurosciences (LBN). Investigation of neuronal activity in animal model of Parkinson, at level of local field potential and single neuron levels (Dr. Salvatore Galati and Prof. Alain Kaelin-Lang).

December 2018-May 2019 Maternity leave.

June 2016-February 2017

PostDoc Research Fellow at ImpAct Team, INSERM, CNRS, Centre de Neuroscience de Lyon, under the supervisor of Dr. Fadila Hadj-Bouziane.

The main research field of investigation was the study of peripersonal space encoded at the central nervous system and its effect on behavioural tasks in relation to different facial expressions.

Occasional Job: Medical writer

Skill and expertise

- Electrophysiological research in physiological and pathological conditions, *in vitro* and *in vivo* (single neurons, local field potentials).
- Use and maintenance of neuronal cultures and HEK cell lines.
- Optimized transient transfections using plasmids encoding wild-type and mutant nicotinic receptors.
- Managed and bred mouse and rat colonies, ensuring proper husbandry, training, and experimental readiness.
- Performed genotyping of animal models to support experimental design.
- Implemented and conducted functional studies using animal models of narcolepsy and Parkinson's disease.
- Conducted behavioral and neurophysiological studies in humans and non-human primates, including electrocardiogram (ECG) recordings and analyses of heart rate (HR) and heart rate variability (HRV).
- Performed data analysis of single-unit activity, local field potentials, and cardiovascular parameters.
- Proficient in the use of software for data acquisition, analysis, and scientific visualization, including Spike2, Plexon system, NeuroExplorer, Clampfit, Clampex, BIOPAC (for HRV analysis), Statistica, SPSS, Adobe Illustrator and BioRender (for the preparation of scientific figures and graphical abstracts).
- Authored and co-authored scientific articles, prepared reports, posters, and oral presentations for conferences.
- Prepared and delivered teaching materials and lectures for students.
- Contributed to laboratory organization and maintenance, ensuring efficient workflow and compliance with safety standards.

Education

January 2011- March 2016

University of Parma, Department of Neuroscience. Parma, Italy. PhD Program in Neuroscience

The title of the PhD thesis is "Pleasant sweeping grooming touch in rhesus monkey: effects on autonomic nervous system and its codification in posterior insular and secondary somatosensory cortex." Advisor: Professor Giacomo Rizzolatti.

June 2012- October 2012

Makeit.so. Roma, Italy. Master in "Comunicazione Scientifica". Second-level master's program in science communication.

October 2008-October 2010

University of Milano-Bicocca, Faculty of Biological science. Milano, Italy.

Master's degree in Biology, physiopathology specialization, with a score of 110/110.

Title of master thesis: "Expression of neuronal nicotinic acetylcholine receptors in lung cancer cells and their modulation by carcinogenic products of tobacco". Advisor: Professor Andrea Becchetti, Professor of Physiology of University of Milan-Bicocca. Co-advisor: Paola Ambrosi Penazzo, PhD student (DIMET).

October 2005-October 2008

University of Milano-Bicocca, Faculty of Biological science Milano, Italy.

Bachelor's degree, medical biotechnology, with a score of 105/110.

My thesis was about the use of lithium as a possible drug for the therapy of Alzheimer's disease. Title of thesis: "Lithium, possible future pharmacological therapy for Alzheimer's disease". Advisor: Prof. Marco Parenti, professor of pharmacology of University of Milano-Bicocca.

Attended school and conferences

18-19th September 2025

Next Gen3Ration research conference 2025, University of Genoa, Italy. Poster presentation: Animal Models and Alternative Methods in Research on Sleep-Related disease: Opportunities and Challenges within the 3Rs Framework.

18th February 2025

BtBs Day, Giornata del Dipartimento di Biotecnologie e Bioscienze, University of Milano Bicocca, Italy. Short talk.

9-11th October 2024

BraYn - Brainstorming Research Assembly for Young Scientists. Genoa, Italy. Participation and poster presentation "Orexin receptor 2-dependent modulation of dopaminergic cells in ventral tegmental area. Implication for narcolepsy with cataplexy."

13th December 2022

BtBs Day, Giornata del Dipartimento di Biotecnologie e Bioscienze, University of Milano Bicocca, Italy. Short talk: "Do orexin and dopamine interact in ventral tegmental area? Implications for narcolepsy."

24th November 2022

TMS Day of Science. University of L'Aquila, Italy. Short talk: "Ventral tegmental area as new protagonist of narcolepsy."

4th November 2022

NeuroMi 2022 Annual Meeting of the Milan Central for Neuroscience, University of Milano Bicocca, Italy. Poster: "Role of orexin in the modulation of dopaminergic system in ventral tegmental area."

15th December 2021

BtBs Day, Giornata del Dipartimento di Biotecnologie e Bioscienze, University of Milano Bicocca, Italy. Short talk: "Modulation of dopaminergic cell in ventral tegmental area by orexin."

5-9th October 2018

International Congress of Parkinson's Disease and Movement Disorders (MDS); Hong Kong. Poster "New evidence for thalamic dysfunction in Parkinsonian rats."

7-11th July 2018

11th FENS (Federation of European Neuroscience Societies); Berlin, Germany. Participation and poster presentation: "Modulation of nucleus reticularis thalami and motor thalamus in parkinsonian rats."

29-30th June 2018

BraYn - Brainstorming Research Assembly for Young Scientists. Genoa, Italy. Participation and poster presentation "Thalamocortical coherence in acute and chronic dopamine depletion."

9th March 2018

Ottava Giornata della Ricerca della Svizzera Italiana. Lugano, Switzerland. Participation and poster presentation "acute and chronic dopamine depletion differently affect thalamic and cortical beta band."

9th February 2018

Swiss society for neuroscience (SSN). Zurich, Switzerland. Participation and poster presentation “Acute and chronic dopamine depletion differently modulates cortical and thalamic neuronal oscillations.”

28-29th September 2017

Réunion annuelle 2017. Société suisse de neurologie. Interlaken, Switzerland. Participation and oral presentation “Dopamine depletion changes the interplay between nucleus reticularis thalami and motor thalamus in rat: new insights for Parkinson's disease pathophysiology.”

10th March 2017

Settima Giornata della Ricerca della Svizzera Italiana. Lugano, Switzerland. Participation.

26-29th September 2015

ISAN International Society for Autonomic Neuroscience. Stresa, Italy.

Participation and oral presentation: “Role of CT fibers in the modulation of the heart rate variability during the sweeping movement of grooming: a pilot study in rhesus macaque monkey”. Poster presentation “Use of infrared thermography, heart rate and heart rate variability in studying effect of sweeps in rhesus monkey.”

26th February 2015

SIN Convegno Nazionale dei Dottorandi di Neuroscienze (SIN): “Nuove Prospettive delle Neuroscienze: “Le Ricerche dei Giovani Neuroricercatori Italiani”. Napoli, Italy.

Participation and presentation of a poster “Putative role of CT fibers in the modulation of the heart rate variability during the sweeping movement of grooming: a pilot study in rhesus macaque monkey”.

5-9th July 2014

9th FENS (Federation of European Neuroscience Societies). Milan, Italy.

Participation and poster presentation: “Effect of grooming on the heart rate variability of rhesus monkey”.

Poster presentation “Neural activity in the inner perisylvian regions (SII/Insula) of the macaque monkey.”

22th-29th April 2012

Neural Control of Movement (NCM). Venice, Italy.

Participation and poster presentation: “Hand-related sensory-motor activity in secondary somatosensory cortex of the macaque monkey.”

14th-17th September 2011

8th International PhD student symposium; Horizons in molecular Biology. Gottingen, Germany.

Participation and poster and talk presentation: “Sensory-motor integration in the secondary somatosensory cortex: an electro-physiological study in macaque monkey.”

14th-18th March 2011

NeuroChip LAB (8th International PhD student symposium, “CSN school on neurophysiology techniques 2011. Advanced technique for neuronal networks investigation and brain machine interfacing”). University of Padova, Italy. Participation and poster presentation: “Nicotinic acetylcholine receptors in lung cancer cell lines.”

Invited Talks

August 2014

Talk presentation at Cognitive Brain Research Unit (CBRU) and at Finnish Institute of Occupational Health (FIOH). Guest of Prof. M. Houtilainen.

Talk presentation at CBRU: “Heart Rate Variability of rhesus monkey. Its modulation during grooming and possible applications for non-human primate study”.

Talk presentation at FIOH: “Effect of grooming on the Heart Rate Variability of rhesus monkey. Is it similar to human affective touch?”

Certifications

Communication and Education related Certifications

- **Science Storytelling workshop.** Milano Bicocca University, Italy.
- **Makeit.so. Roma, Italy. Master “Comunicazione Scientifica”.** Second-level master's program in science communication.
- **Medical Writing, an online course of Academy Polistudium.**
- **Writing in the sciences, an online non-credit course authorized by Stanford University and offered through CourseraWorkshop**
- **Progettazione didattica e valutazione** November 2024. Milano-Bicocca University, Italy.

GCP Certifications

- **Good clinical practice (GCP), first-level investigation.** Good clinical practice, Clinical trial unit <https://www.ctueoc.ch/>
- **Good Clinical Practice per Principianti**, FormazioneNelFarmaceutico.com.

Animal research

- **LTK module 1** - Institute of Laboratory Animal Science, M-1E - Introductory Course in Laboratory Animal Science - Rodents. Authorization LTK1 for animal research. *June 2017*.
- **National Legislation & Ethics, Level 1, Modules 1–2 (DM Aug 5, 2021) – 1st Edition (Online)** **Laboratory Animal Biology & Management, Modules 3.1, 4–7 (Rodents & Lagomorphs, DM Aug 5, 2021) – 1st Edition (Online)**
- **Practical course module 3.2, module 8 and module 6.2 (mouse and rat).** June 2024. Milano-Bicocca University, Italy. For functions A, C, D, covering species: mouse and rat
- **Animali utilizzati a fini scientifici aspetti normativi, etici e procedurali.** 15 Crediti Formativi Professionalizzanti. October 2025.(Online)

Others

- **Gestione in sicurezza di gas industriali e criogenici.** March 2025. Milano-Bicocca University, Italy.
- **Formazione specifica medio rischio.** 2024 and 2025. Milano-Bicocca University, Italy.

Editorial & Scientific Activities

Early-Career Researcher Editorial Board of Journal of Integrative Neuroscience (July 2025-Present)

Guest Editor (ongoing), Special Issue “*Molecular and Neurological Aspects of Sensory Processing Disorders*”, *Biology (MDPI)*.

Chair (Organizing Phase), Webinar on *Sensory Processing Disorders – Biology (MDPI)*.

Supervising and mentoring activities

Since 2011, I have supervised undergraduate students during short-term internships as well as during one-year internships for the preparation of their Master's theses.

In 2022 and 2024, I participated as a tutor in the *Piano Lauree Scientifiche (PLS)* project at the University of Milano-Bicocca, aimed at introducing high school students to laboratory techniques and scientific methods.