

CURRICULUM VITAE

LANGUAGES

Italian (native), English (Level C1, FCE), French (A2).

TECHNICAL SKILLS

Patch-clamp on excised membrane patches, single cells and brain slices; **MEA** on brain slices; electrophysiological data analysis (**pClamp**, **Clampfit**, **MiniAnalysis**, **Matlab**) and statistical analysis (**OriginLab**, **R**).

Histological stainings and **immunohistochemistry**; optical, fluorescence and confocal **microscopy**, and image analysis (**FIJI**, **Arivis**, **InkScape**).

In vitro **cell culture** (*E. coli*, immortalized mammalian cell lines; primary neuronal cultures); transient **transfections**; PCR and RT-PCR; protein extraction, SDS PAGE and column chromatography (affinity and HPLC).

Handling of **animal models** and simple colony management (mouse and *C. elegans*); good laboratory practices.

GIULIA COLOMBO

POST-DOC @ ISTITUTO ITALIANO DI TECNOLOGIA
DEPARTMENT OF NEUROSCIENCE AND BRAIN TECHNOLOGIES
LABORATORY OF BRAIN DEVELOPMENT & DISEASE
VIA MOREGO, 30 – 16163 – GENOVA (ITALY)

PUBLICATIONS & PRESENTATIONS

PUBLICATION

• Villa C*, Colombo G*, Meneghini S, Gotti C, Moretti M, Ferini-Strambi L, Chisci E, Giovannoni R, Becchetti A and Combi R (2019) **CHRNA2 and Nocturnal Frontal Lobe Epilepsy: Identification and Characterization of a Novel Loss of Function Mutation**. *Front. Mol. Neurosci.* 12:17.
doi: 10.3389/fnmol.2019.00017

doi: 10.3389/fnmol.2019.00017

*These authors have contributed equally to this work.

• Becchetti, A., Grandi, L. C., Colombo, G., Meneghini, S., & Amadeo, A. (2020). **Nicotinic Receptors in Sleep-Related Hypermotor Epilepsy: Pathophysiology and Pharmacology**. *Brain Sciences*, 10(12), 907.
doi: 10.3390/brainsci10120907

doi: 10.3390/brainsci10120907

• Meneghini, S., Modena, D., Colombo, G., Coatti, A., Milani, N., Madaschi, L., ... & Becchetti, A. (2022). **The $\beta 2V287L$ nicotinic subunit linked to sleep-related epilepsy differently affects fast-spiking and regular spiking somatostatin-expressing neurons in murine prefrontal cortex**. *Progress in Neurobiology*, 214, 102279.
doi: 10.1016/j.pneurobio.2022.102279

doi: 10.1016/j.pneurobio.2022.102279

• Bandarabadi, M., Li, S., Tafti, M., Colombo, G., Becchetti, A., & Vassalli, A. (2022). **Orexin action on the dopaminergic system modulates theta during REM sleep and wakefulness**. *bioRxiv*, 2022-01.
doi: 10.1101/2022.01.30.478401 and submitted

doi: 10.1101/2022.01.30.478401 and submitted

TALK

• **Regulation by hypocretin (orexin) of excitatory postsynaptic potentials in layer V pyramidal neurons of murine prefrontal cortex (PFC)**

Colombo G¹, Coatti A¹, Vassalli A², Becchetti A¹ - ¹Department of Biotechnology and Biosciences, University of Milano-Bicocca, Italy ²Department of Physiology, University of Lausanne, Switzerland - 10-13th September - FEPS - SIF 2019 Joint Meeting, Bologna

POSTERS

• **Hypocretin (orexin) peptides regulate glutamatergic transmission in layer V of the frontal area 2 (Fr2) of the murine prefrontal cortex (PFC)**

Colombo G¹, Coatti A¹, Vassalli A², Becchetti A¹ - ¹ University of Milano-Bicocca, Italy ² University of Lausanne, Switzerland - 13th July 2020 – FENS Virtual Forum 2020

• **Pre- and postsynaptic effects of hypocretin (orexin) on excitatory neurotransmission in layer V pyramidal neurons of murine premotor cortex**

Colombo G¹, Coatti A¹, Vassalli A², Becchetti A¹ - ¹ University of Milano-Bicocca, Italy ² University of Lausanne, Switzerland - 22th September 2020 – ESRS Virtual Congress 2020

• **The Ascending Reticular Activating System in cortical excitability modulation: physiological features and implications in sleep-related pathologies**

Colombo G¹, Coatti A¹, Vassalli A², Villa C³, Modena D⁴, Amadeo A⁴, Combi R³, Ferini-Strambi L⁵, Becchetti A¹ - ¹University of Milano-Bicocca, Italy ²University of Lausanne, Switzerland ³University of Milano-Bicocca, Surgery and Medicine, Monza, Italy ⁴University of Milano, Biosciences, Milano, Italy ⁵University Vita-Salute San Raffaele, Milan, Italy - 4th June 2021 – ENCODS Virtual Meeting 2021



EDUCATION & TRAINING

B. SC. IN BIOLOGICAL SCIENCES • 2013-2016 • UNIVERSITY OF MILANO-BICOCCA

110 cum Laude/110 – Thesis: The role of glucose in slow-wave sleep induction by means of the excitation of hypothalamic ventrolateral preoptic nucleus neurons – Andrea Becchetti, PhD

M. SC. IN BIOLOGY • 2016-2018 • UNIVERSITY OF MILANO-BICOCCA

110 cum Laude/110 – Thesis: Functional study of the nicotinic acetylcholine receptor $\alpha 2$ -Y252H subunit associated with sleep-related hypermotor epilepsy – Andrea Becchetti, PhD

PH.D. IN TRANSLATIONAL & MOLECULAR MEDICINE • 2018-2022 • UNIVERSITY OF MILANO-BICOCCA

Thesis: Orexinergic and cholinergic function in the brain ascending modulatory system and its implications in sleep-related pathologies – Tutor: Andrea Becchetti, PhD; Co-tutor: Anne Vassalli, PhD

LABORATORY INTERNSHIP • JUNE-JULY 2012 • INSTITUTE OF PHARMACOLOGICAL RESEARCH MARIO NEGRI, MILAN

The role of chronic inflammation and of microglial activation in temporal lobe epilepsy – Laboratory of Experimental Neurology – Annamaria Vezzani, PhD

LABORATORY INTERNSHIP • JUNE-JULY 2015 • UNIVERSITY OF MILANO-BICOCCA

The role of some nicotinic acetylcholine receptor mutations in Autosomal Nocturnal Frontal Lobe Epilepsy (ADNFLE) – Laboratory of Neurophysiology – Andrea Becchetti, PhD

LABORATORY INTERNSHIP • MAY-JUNE 2016 • UNIVERSITY OF MILANO-BICOCCA

Characterization of amyloidogenic proteins (ataxin3) with diverse experimental techniques in cellular and animal models (*C. elegans*) – Laboratory of Neurobiochemistry – Paolo Tortora, PhD



VISITING SCIENTIST • JULY-SEPTEMBER 2021 • UNIVERSITY OF LAUSANNE

High-density MEA on brain slices from VTA and midline cortices to assess the orexinergic modulation of spontaneous activity and theta rhythmogenesis – Anne Vassalli, PhD

SUMMER SCHOOL • Introduction to Cognitive Neuroscience: From Molecules to Behaviour
8-12th August 2016 • Radboud University, Nijmegen

SUMMER SCHOOL • 4th Alpine Sleep Summer School
3-7th July 2017 • University of Italian Switzerland, Lugano

SUMMER SCHOOL • 9th June – 7th July 2018 • Neuroscience School of Advanced Studies, Venice Sorbelli Scholarship attendee at the Cognitive Neuroscience Module of NSAS – Circuit Dynamics and Cognition, chair: **Gyorgy Buzsaki**; Social Decision Making, chair: **Michael Platt**; Cell Types, Coding and Cognition, chair: **Christof Koch**; Consciousness: From Theory To Practice, chair: **Giulio Tononi**



MEETING • NeuroMi 2017 – International Symposium on Personalised Medicine in Multiple Sclerosis
13-15th September 2017 • University of Milano-Bicocca

MEETING • Second Neuroscience Meeting @ UniMI
27th March 2018 • University of Milano

MEETING • NeuroMi 2018 – Brain Stimulation and Brain Plasticity: From Basic Research to Clinical Practice
21-23th November 2018 • University of Milano-Bicocca

MEETING • Nanomedicine 2019 Annual Meeting
2nd-3rd May 2019 • University of Milano-Bicocca

MEETING • Federation of European Physiological Societies and Italian Physiological Society joint

meeting 2019

As **FEPS Travel Award** awardee, 10-13th September 2019 • University of Bologna

MEETING • VIBes in Biosciences 2020

As **VIB Travel Grant** awardee, 11-13th March 2020 • VIB, Leuven (Belgium) • Virtual attendance due to COVID-19 pandemic

MEETING • Federation of European Neuroscience Societies Virtual Forum 2020

As **FENS Travel Award** awardee, 11-15th July 2020

MEETING • European Sleep Research Society Virtual Congress 2020

22-24th September 2020

MEETING • Gruppo Italiano per lo studio della Neuromorfologia Meeting 2020

12-14th November 2020

MEETING • NeuroMi Annual Virtual Meeting 2020 (COVID-19 Focus)

18th December 2020

MEETING • ENCODS Virtual Meeting 2021

4-6th June 2021

MEETING • SINS Virtual Meeting 2021

9-11th September 2021

MEETING • How to be a Researcher in the XXI Century

14-17th September 2021 • CNR Milano



COURSE • AISAL Annual course – The three Rs in animal facilities management – Entry Level
27-28th October 2017 • University of Milano-Bicocca

COURSE • The neuroanatomical basis and morphological analysis methods of central nervous system in experimental models
6-8th February 2018 • University of Milano

COURSE • Productivity tools for (young) researchers
13th November - 11th December 2018 • University of Milano-Bicocca

COURSE • Writing of scientific papers
16th February-20th March 2019 • University of Milano-Bicocca

COURSE • Economical, operational and scientific impacts of breeding strategies on genetically engineered models

7th May 2019 • University of Milano-Bicocca

COURSE • Cancer Genomics and Immunotherapy: potential clinical and immunological progress at the intersection

27-28th June 2019 • University of Milano-Bicocca

COURSE • Single cell analysis in the era of multi-dimensional advanced cytometry: dissecting heterogeneity of immune system and cancer cells

27-28th November 2019 • University of Milano-Bicocca

COURSE • Introduction to statistics with R

7-30th January 2020 • University of Milano-Bicocca

COURSE • Author Workshops on Academic Writing and Publishing

14 February 2020 • University of Milano-Bicocca, by Enago Academy

COURSE • Quantitative Methods for Biology

7th May – 10th June 2020 • HarvardX on EdX

COURSE • Gene Expression Data for Beginners

1st-5th February 2021 • online, University of Milano-Bicocca by Leonid Bystrykh, PhD @ ARCH network – Age-Related changes in Hematopoiesis

COURSE • Research Grant Writing

25th February – 12th March 2021 • University of Milano-Bicocca, by Chiara Gabbi MD, PhD



AD HOC REVIEWER FOR: Journal of Neuroscience, PNAS Nexus



MEMBERSHIP • Gruppo Italiano per lo studio della Neuromorfologia (2020 - 2022)

MEMBERSHIP • Società italiana di Neuroscienze (2021 - 2023)

REPRESENTATIVE ROLE • PhD representative in the Doctoral School Council (30th March 2021 – 3rd May 2022)



COURSE • Effective communication

18th January – 1st April 2019 • Assolombarda

COURSE • Public perception of Science: young researchers facing scientific topics of great public, political and mediatic relevance (IT)

27-28th April 2020 • UniStem (Senator Elena Cattaneo, director)

COURSE • COVID-19: How to chase and beat a virus (IT)

28-29th May 2020 • UniStem (Senator Elena Cattaneo, director)

COURSE • Tutoring: how to get the best out of yourself and others

15-16th September 2020 • University of Milano-Bicocca

COURSE • Reading the world through gendered lens: a methodological reflection

14th January – 23th February 2021 • University of Milano-Bicocca

COURSE • Bbetween2021 Civic Engagement: Climate crisis: environmental, social and economical impacts

26th January – 3rd March 2021 • University of Milano-Bicocca

COURSE • A future outside of Academia? The curious case of transferable competences

17-24th February 2021 • University of Milano-Bicocca

COURSE • Communicating research in the era of social media

19th February – 10th March 2021 • University of Milano-Bicocca

COURSE • European Agenda 2030 and the Sustainable Development Goals

21th February 2021 • University of Milano-Bicocca

VOLUNTARY WORK & PASSIONS

TEMPORARY VOLUNTEER • Wildlife care & science communication to tourists

August 2014 • WWF Italy – Lampedusa Turtle Group, rehabilitation centre for marine turtles

STAGE • Tropical marine ecology – First level

11-18th October 2014 • MAHRE Center, Faafu Atoll (Maldives) @ University of Milano-Bicocca

TEMPORARY VOLUNTEER • Wildlife care & rehabilitation

August 2016 • LIPU, Italian section of Birdlife – CRUMA Livorno, wildlife rescue centre for birds and mammals

CURRENT VOLUNTEER • LIPU Milano and ADI Milano (Associazione dei Dottorandi e Dottori di Ricerca in Italia)



LITERATURE • I'm a passionate reader, of any kind of books

POETRY • My first love was poetry and I've been lucky enough to manage to see some of my verses published in a [book](#); I also have a [poetry&photography blog](#)

ART • I'm fond of ancient, modern and contemporary art, and have some hints on how to paint with watercolours

SCIENCE COMMUNICATION • I like to talk to people of the things I love and work with; I'm collaborating with [Monnalisa Bytes Visual Science Magazine](#), [PhD Bioscienze Italia](#), [Meet Science](#), [MicrobiotaMi](#) and I'm the Twitter Ambassador for the Italian EARA (European Animal Research Association) [Twitter account](#)