

CV Anna Maria Cariboni Premio Tarone under 45, 2022

Cariboni Anna Maria - ORCID 0000-0001-8630-8361

Associate Professor at the Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, Milano, Italy; Telephone: +39 02 50318216; Email: anna.cariboni@unimi.it

Education:

- 2001 Pharmaceutical Biotechnology Degree (marks: 110/110), discussing the thesis: "The product of the X-linked Kallmann Syndrome gene KAL-1 stimulates the chemomigration of immortalised GnRH neurons". University of Milan, Italy.
- 2005 PhD in Endocrinology and Metabolic Sciences, discussing the thesis: "The role of anosmin-1 and reelin in the migration of GnRH-neurons". University of Milan, Italy (supervisor Prof. R. Maggi).

Professional Appointments/ Previous Positions:

- 2001-2004 PhD student. Laboratory of Prof. R. Maggi, Dept. of Endocrinology, Physiopathology and Applied Biology, University of Milan, Italy.
- 2005-2008 Post-doctoral fellow. Laboratory of Prof. J. Parnavelas (UCL).
- 2008-2014 Lecturer at the University of Milan (Dept. of Pharmaceutical and Biomolecular Sciences-DISFEB) and Research Associate at UCL.
- 2015- Associate Professor in Applied Biology at the University of Milan (Dept. Pharmaceutical and Biomolecular Sciences-DISFEB).
- 2017-2021 Honorary Research Associate at Research Associate at UCL
- 2018 Habilitation for Full Professorship in Experimental Biology

Grants:

- 2010-2013 Co-applicant of a 3 years "Young Research Grant" from the Italian Minister of Health (PI Dr. M. Bonomi; Title: "Idiopathic Central Hypogonadism (ICH) as an emerging clinical problem: Investigations on the disrupted signals underlying its pathogenesis and generation of an efficient national network for its diagnosis and management"- GR-1137632).
- 2013-2017 Principal Investigator of a 3 years Telethon Project Grant (Title: "Semaphorin3E and CHD7 signalling pathways in the control of olfaction and reproduction: link for CHARGE syndromes?").
- 2017-2018 Principal Investigator of 1 year Pilot Research Grant from the American CHARGE Foundation (30.000\$). Title: 'Dissecting the role of CHD7 in the control of olfaction and reproduction to better understand the etiopathogenesis of CHARGE syndrome'.
- 2018-2021 Co-applicant of a 3 years "Young Research Grant" from the Italian Minister of Health (PI Dr. V. Vezzoli; Title: "Combined Next-generation sequencing and in vivo approach to uncover the complex genetic basis of GnRH neuron deficiency"- GR-2016- 02362389
- 2021-2023 Co-Principal Investigator of 1 year Pilot Research Grant from the American CHARGE Foundation (49.500\$). Title of the project: 'Defining the genetic interaction between CHD7 and semaphorin signalling by exploring C.Elegans as animal model'.
- 2022-2023 PI on a 'Society of Toxicology – Colgate-Palmolive Grant for Alternative Research' (40.000\$). Title: "Exploring the impact of nanoplastics on sexual reproduction by applying tailored *in vitro* models of developing and maturing GnRH neurons".
- 2023-2024 Principal Investigator of a 1 year Telethon Project Grant (Title: 'Connecting craniofacial malformations with neural crest splicing defects by defining the role of nuclear cyclophilin NKTR').
- 2023-2025 Principal Investigator of a 2 years Research Project from the Italian Ministry of University and Research (Title: 'Exploring the role of SEMA6A in the formation of hypothalamic and cerebellar circuits to unravel new molecular mechanisms underlying reproductive and feeding behaviours').
- 2023-2026 Co-PI of 3 years Research Project from the Italian Ministry of University and Research (Title: 'Combining tailored *in silico*, *in vitro* and *in vivo* models to unveil new NKTR functions associated with rare neurodevelopmental disorders').

Awards and Honors (selection):

- 2004 1 year IBRO Research Fellowship (25.000\$);
- 2006,2010 FENS meeting travel stipend (500€);
- 2007 Novartis Young Investigator Award (European Congress of Endocrinology) (3.500€); short-term fellowship (Italian and Hungarian Health Ministry Exchange Program) (1000€);
- 2015 European Society of Neurochemistry Young Scientist Lectureship Award (YSLA)
- 2022 'Under 45 special award' (Premio 'Guido Tarone') presented at the National Meeting of Italian Association for Biology and Genetics.

Invited talks (selection last 10 years):

- 2015 Invited speaker at the European Society of Neurochemistry Meeting (Tartu, Estonia).
2016 Invited speaker at the European Society of Endocrinology Meeting (Munich, Germany).
2017 Invited speaker at the 2017 Neural Crest and Cranial Placodes Gordon Research Conference (Ventura Beach, USA).
2018 Invited speaker at the International Conference of Neuroendocrinology (ICN), Toronto (Canada).
Invited speaker at the Annual Meeting of the Endocrine Society, Chicago (USA).
2021 Speaker at the European Society of Human Genetics (Virtual meeting).
2022 Special lecture at the National meeting of the Italian Association for Biology and Genetics, for the award 'Premio Tarone 2022'.
2023 Invited speaker at the European Society of Pediatric Endocrinology meeting (The Hague, Netherlands).
2024 Invited speaker for the Annual EUCRE meeting (Prato, Italy)
2025 Invited speaker for Departmental Seminars at UCL School of Pharmacy and Queen's Mary University (London, UK); Invited speaker for the 'Meet the expert' session at the ESPE (Copenhagen, Denmark);

Publications (total number, citation index, 5 selected)

56 PubMed entries with a total of 1956 citations and an H-index 26 (June 2025, Scopus).

Lettieri A, Oleari R, van den Munkhof MH, van Battum EY, Verhagen MG, Tacconi C, Spreafico M, Paganoni AJJ, Azzarelli R, Andre' V, Amoroso F, Palazzolo L, Eberini I, Dunkel L, Howard SR, Fantin A, Pasterkamp RJ, Cariboni A. "SEMA6A drives GnRH neuron-dependent puberty onset by tuning median eminence vascular permeability", Nature Communications 2023 Dec 7;14(1):8097. IF 2023: 16.6;

Oleari R, Lettieri A, Manzini S, Paganoni A, André V, Grazioli P, Busnelli M, Duminuco P, Vitobello A, Philippe C, Bizaoui V, Storr HL, Amoroso F, Memi F, Vezzoli V, Massa V, Scheiffele P, Howard SR, Cariboni A. Autism-linked NLGN3 is a key regulator of gonadotropin-releasing hormone deficiency. Dis Model Mech. 2023 Mar 1;16(3):dmm049996. doi: 10.1242/dmm.049996. IF 2023: 4

Whittaker DE, Oleari R, Gregory LC, Le Quesne-Stabej P, William HJ, GOSgene, Torpiano JG, Formos N, Cachia MJ, Field D, Lettieri A, Ocaka L, De Martini LB, Rajabali S, Riegman KL, Paganoni AJJ, Chaya T, Robinson I, Furukawa T, Cariboni A*, Basson MA*, Dattani MT*. "Recessive PRDM13 mutation result in hypogonadotropic hypogonadism and cerebellar hypoplasia". J Clin Invest. 2021 Nov 2:e141587. *co corresponding authors. IF 2020:14,808;

Howard SR, Guasti L, Ruiz-Babot G, Mancini A, David A, Storr HL, Metherell LA, Sternberg MJ, Cabrera CP, Warren HR, Barnes MR, Quinton R, de Roux N, Young J, Guiochon-Mantel A, Wehkalampi K, André V, Gothilf Y, Cariboni A, Dunkel L. IGSF10 mutations dysregulate gonadotropin-releasing hormone neuronal migration resulting in delayed puberty. EMBO Mol Med. 2016 Jun 1;8(6):626-42. IF 2016:9,249

Cariboni A*, André V, Chauvet S, Cassatella D, Davidson K, Caramello A, Fantin A, Bouloux P, Mann F, Ruhrberg C* "Dysfunctional SEMA3E signaling underlies gonadotropin-releasing hormone neuron deficiency in Kallmann syndrome", Journal of Clinical Investigation 2015 Jun 1;125(6):2413-28. *co-corresponding authors. IF 2015: 12,575; Nlgn3

Cariboni A, Davidson K, Rakic S, Maggi R, Parnavelas JG, Ruhrberg C. Defective gonadotropin-releasing hormone neuron migration in mice lacking SEMA3A signalling through NRP1 and NRP2: implications for the aetiology of hypogonadotropic hypogonadism. Hum Mol Genet. 2011 Jan 15;20(2):336-44. IF 2011: 7.736

Research Interests and major collaborations

Our lab is interested in the study of the molecular mechanisms regulating neurodevelopment with a special focus to GnRH neurons and related neurodevelopmental disorders. We collaborate nationally and internationally with the following groups: Prof. Sasha Howard, QMUL, UK; Prof. Jeroen Pasterkamp, Utrecht, Netherlands; Dr Elia di Schiavi, CNR, Naples, Italy; Prof. Michela Ori, University of Pisa, Italy; Prof. Michela Denti, CIBIO, Italy; Prof. Albert Basson, Exeter, UK.

See our website for further information: <https://sites.unimi.it/caribonilab/>