

EUROPEAN
CURRICULUM VITAE
FORMAT



PERSONAL INFORMATION

Name	SIMONA CANDIANI
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Nationality	Italian

WORK EXPERIENCE

- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2021 – 2023
Ministry of University and Research (MIUR)
Research, Teaching
Member of the Commission for the National Scientific Qualification “ASN”
Responsible for recruiting teaching staff of the Comparative Anatomy and Cytology (BIO/06)
- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2020 –to date
University of Genova, Genova, Italy
Research, Teaching
Full Professor
Cytology, Histology, Developmental Biology, model organisms, Neurobiology. Principal Investigator of the Research Group of Developmental Neurobiology of the Department of Earth, Environment and Life Sciences (DISTAV).
- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2015 – to 2024
University of Genova, Genova, Italy
Research, Teaching, Third Mission
Member of the Editorial Committee of Genoa University Press (GUP: <https://gup.unige.it/>)
Expert in animal experimentation (mouse and fish)
- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2017 – to date
University of Genova, Genova, Italy
Research
Scientific member of OPBA Animal Welfare Body
Expert in animal experimentation (mouse and fish)
- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2017 – to date
Experimental Zoo-prophylactic Institute of Abruzzo and Molise
Research, Teaching
Responsible of the zebrafish Facility
Supervisor of the animal cure of the zebrafish facility located inside the Department of Earth, Environment and Life Sciences (DISTAV)
- Dates (from - to)
• Name and address of the employer
• Type of business or sector
• Occupation or position held
• Main activities and responsibilities

2010-2014
University of Genoa, Genova, Italy
Research
Researcher
Developmental Biology, Neurobiology

EDUCATION AND TRAINING

2004-2009: Research fellowship at the University of Genova, Italy

2000-2004: Doctorate (4-years) in Neurochemistry and Neurobiology at the University of Genova

1997: Msc. in Biology (summa cum laude, 5-year degree), University of Genova

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

ENGLISH

- Reading skills
- Writing skills
- Verbal skills

Good
Good
Good

SOCIAL SKILLS
AND COMPETENCES

Excellent ability to work in a research team with multiple activities with strong attitudes toward interdisciplinary research. Excellent communication skills and teamwork spirit. Excellent time management, ability to handle multiple tasks at the same time and work efficiently under pressure.

ORGANIZATIONAL SKILLS
AND COMPETENCES

Strong attitude to scientific and academic project management and coordination demonstrated by the numerous Institutional roles covered.

Here are the main:

- Member of the **Academic Board of the PhD Course in Neurochemistry and Neurobiology**, UNIGE
- Member of the **Academic Board of the PhD Course** in Experimental Medicine, UNIGE
- Member **Board of the Department of Earth, Environment and Life Sciences (DISTAV)**, UNIGE
- Member of the **AQ Commission of Biology Course**, DISTAV, UNIGE
- Member of the **Commission of Technicians and Laboratories** at the Department of Earth, Environment and Life Sciences (DISTAV), UNIGE
- Member of the **College of full Professor of Comparative Anatomy and Cytology (BIO/06)**
- Member of the **Accademia Ligure di Scienze** (<http://www.accademialigurediscienzelettere.it/>)
- Member of the **Governing Council of the "GEI-Società Italiana di Biologia dello Sviluppo e della Cellula"** (<https://www.gruppo-embriologico.it/>)
- Member of **Member of the Italian Zoological Union (UZI: <http://uzionlus.it>)**

TECHNICAL SKILLS
AND COMPETENCES

Developmental biology: microinjection and technical skills in different model organisms; Cell and Molecular biology: cell culture, transfection, cloning, *in situ* hybridization, RT-PCR, microRNA, and siRNA technology. Bioinformatic skills: genomic annotation, microRNA, comparative genomics. Morphology: preparing tissue specimens for histological examination and immunocytochemistry. Imaging by confocal and epifluorescence microscope.

ADDITIONAL INFORMATION

SHORT BIOGRAPHY

Principal Investigator of the research group of Developmental Neurobiology of the Department of Earth, Environment and Life Sciences (DISTAV), University of Genova. Current research is mainly focused on the evolution of the nervous system and developmental biology processes using as models' mammals, teleosts and protochordates. Other scientific activities are focused on zebrafish for the study of neuroblastoma and neurodegenerative diseases. More recently, the research group is also involved in the study of the role of NK cells in checkpoint blockade immunotherapy for cancer treatment as expert in the molecular biology, microRNAs and siRNA technology.

She is author of several Communications at International Congresses and National Congresses, often as an invited

speaker and invited scientific reviewer of International Peer-review Journals.

Her teaching activity was focused on various degree courses such as Biological Sciences and Biotechnology graduate degree, and for the second level degree in Applied and Experimental Biology of the following courses: Cytology and Histology, Cell and Developmental Biology, Developmental Biology, Biological Evolution Comparative Genomic, Cytology and Forensic Histology, Neuro-Evo-Devo at the Faculty of Sciences of the University of Genoa.

Tutors and co-tutor of more than 61 thesis of first level and second level; tutor of several PhD thesis and of research fellows. Member of several PhD examining commissions both national and international.

Invited speaker at the international school organized by UZI and Istituto Veneto di Scienze, Lettere e Arti, Venezia on "Development of the nervous system: a comparative and behavioral approach", lecture entitled: "microRNAs in neural development".

INVITED RESEARCHER AT THE FOLLOWING FOREIGN LABORATORIES

–August 1997 and 1998: Kristineberg Marine Research Station of the Royal Swedish Academy of Sciences, Fiskebäckskil, Sweden.

–July-August 1998-2001 and 2003: Department of Biology, University of South Florida, Tampa, Florida, USA.

–February-April 2001: Scripps Institution of Oceanography, University of California, San Diego, La Jolla, USA.

–June-July 2011 and 2012: Laboratoire Arago, Banyuls-sur-Mer, France.

–July-August 2011: Institute of Molecular Genetics, Czech Academy of Sciences, Prague.

–June 2012: Laboratoire Arago, Banyuls-sur-Mer, France.

–June 2016: Laboratoire Arago, Banyuls-sur-Mer, France.

HONORS AND AWARDS FOR SCIENTIFIC ACTIVITY

-2015 Invited author of a chapter entitled "Detection of mRNA and microRNA expression in basal chordates, amphioxus and ascidians, in *Neuromethods*, Springer, vol. 99 (2015), pp. 279-292.

-2018 Invited author a chapter entitled: "Cephalochordate Nervous System" In: Murray Sherman S. *Oxford Research Encyclopedia of Neuroscience*. p. 1-36, New York: Oxford University Press

-2007/2008 She participated in some of the most cited articles in the field of developmental biology of amphioxus: 1. Holland et al. 2008. The amphioxus genome illuminates vertebrate origins and cephalochordate biology. *Genome Research* 18, 1380; it is one of the most cited works in the field of the study of amphioxus (scopus citations: 394). 2. Kozmik et al., 2007. Pax-Six-Eya-Dach network during amphioxus development: Conservation in vitro but context specificity in vivo. *Developmental Biology* 306, 143-159 (scopus citations: 132).

-2006-2007 She participated to the annotation of the Genome of the amphioxus in collaboration with the DOE Joint Genome Institute (CA, USA) and Dr. N. Putnam.

SELECTED GRANTS OF NATIONAL AND INTERNATIONAL RESEARCH PROJECTS

2001-2004 MIUR-FIRB (protocol N. RBAU01WAFY): "POU genes in the differentiation of the nervous system of proto-chordates"

2002-2004 MIUR-PRIN (protocol N.2002055187): "Neurotransmitters as signal molecules in the development and differentiation of the nervous system"

2004-2006 MIUR-PRIN (protocol No. 2004057732): "Role of neurotransmitters in neural development and differentiation in different experimental models: molecular, functional and evolutionary aspects"

2006-2008 MIUR-PRIN (protocol No. 2006058952): "Transcription factors and neurotransmitters in neural differentiation: molecular, functional and evolutionary aspects"

2008-2010 MIUR-PRIN (protocol No. 20088JEHW3_001: "MicroRNAs in neuronal gene regulation in chordate amphioxus invertebrate"

2011-2012 ASSEMBLE project (EU FP7 research infrastructure initiative comprising a network of marine research stations) at the Observatoire Oceanologique de Banyul sur mer Laboratoire Arago, France. Project title: "microRNAs in the neural development of amphioxus".

2016-2017 CORBEL project (Horizon H2020: <http://www.corbel-project.eu/success-stories.html>) entitled "Involvement of lin-28 and let-7 in the neural development of amphioxus".

2017-2018 ASSEMBLE PLUS project at the Observatoire oceanologique de VilleFrance sur mer, France (<https://www.assembleplus.eu/access/accepted-projects>). Project title: "Development of neuroglia in amphioxus"

2017-2019 Research project funded by the Italian Association of Alexander Syndrome "More Unique than Rare". Title: "zebrafish as a new model to study Alexander disease"

2019-2021 Research Project funded by the Italian Alexander Syndrome Association "More Unique than Rare". Title: "Creations of transgenic zebrafish models for the study of Alexander's disease and their molecular characterization"

2021-2023 Research Project funded by the Italian Alexander Syndrome Association "More Unique than Rare". Title: "Study of transgenic zebrafish models for the study of Alexander's disease"

2020-2021 ASSEMBLE PLUS project at the Observatoire oceanologique de VilleFrance sur mer, France, (Grant Agreement No. 730984): "Locomotor Control in Amphioxus Larvae"

-2013-2015 Research Project funded by the Carige Foundation in collaboration with prof. E. Marcenaro and A. Moretta of DIMES, University of Genoa entitled: "Analysis of the role of microRNAs in the differentiation of human NK cell

subpopulations

-2018-2021 Research project funded by AIRC (IG 2017 Id. 20312): "Checkpoint inhibitors regulate anti-tumor responses by human NK cells". PI Prof. A. Moretta of DIMES

-2018-2024 Research project funded by AIRC 5x1000 "Immunity in Cancer Spreading and Metastasis (ISM)" (n. 21147) PI Prof. A. Moretta of DIMES, University of Genova

-2020-2022 Research Project funded by the San Paolo Foundation (ROL. N. 32638) in collaboration with prof. Lemoli, IRCCS San Martino Polyclinic Hospital and Prof. E. Marcenaro, DIMES, University of Genova. Title: "Adoptive immunotherapy and checkpoint inhibitors for the treatment of relapsed/refractory Hodgkin's lymphoma: anti-neoplastic role of NK cells"

-2021-2026 AIRC IG 2021 (Id. 26037) in collaboration with Prof. E. Marcenaro, DIMES, University of Genova. Titolo: "Understanding the role of NK cells in checkpoint blockade immunotherapy for treatment of breast and gynecologic cancers". Budget: 760.0000 euro

-2024-2026: SINISA (FILSE): The project is coordinated by Dedalus Italia s.p.a., with the participation of Leonardo s.p.a., Genartis s.r.l., Rulx Innovation Labs s.r.l., CherryChain s.r.l. and Vis (ETT Group), Asl5 of La Spezia, and University of Genoa.

2022-2025: European Project: JPI Oceans: <https://www.jpi-oceans.eu/en/turning-volume-five-new-projects-underwater-noise-marine-environment-awarded-funding> Title: DeuteroNoise Characterization of maritime noise in different European basins and its impact on ecological relevant deuterostome invertebrates | Coordinator: Lucia Manni, University of Padua (Italy).

2025-2027 PRIN Prot2022SF7HY9 NoDe: The impact of anthropogenic noise on marine invertebrate deuterostomes: development, behavior and resilience.

EDITORIAL ACTIVITY

1. Review Editor for Frontiers Neurophysiology
2. Review Editor for Frontiers in Cell and Developmental Biology
3. Review Editor for Frontiers in Ecology and Evolution
4. Member of Topics Board for the journal "Cells", MDPI
5. Member of the Editorial Committee of Genova University Press (GUP)
6. Guest editor for special issue on "Neuronal Differentiation and Development" organized by Cells, MDPI

REVIEWER ACTIVITY FOR THE FOLLOWING JOURNALS

Journal of the Marine Biological Association of the United Kingdom; Acta Biochimica et Biophysica Sinica; Cell and Tissue Research; BMC Microbiology; BMC Evolutionary Biology; Gene; Molecular Biology; Evolution and Development; Molecular Neurobiology; PlosOne; BMC Developmental Biology; Journal of Comparative Neurology; Scientific Report; International Journal of Molecular Biology; Brain Sciences; International Journal of Environmental Research and Public Health; Genes; International Journal of Molecular Sciences, Frontiers in Ecology and Evolution; Cells, Biomedicine. Reviewer for PRIN and FIRB projects. Reviewer of two research projects within the French National Research Agency ANR.

2012 Coauthor of the Book "Functional Anatomy of the Human Nervous System" Genoa University Press (in coll. with Damiano Zaccheo)

2013 Coauthor of the Book "Citologia, Istologia e Anatomia microscopica" Piccin Editore Padova

2020 Coauthor of the Book "Citologia e Istologia" Edelson Gnocchi

ORCID: <https://orcid.org/0000-0002-4453-5475>

SELECTED PUBLICATIONS:

1. Bellitto D, Bozzo M, Ravera S, Bertola N, Rosamilia F, Milia J, Barboro P, Vargas GC, Di Lisa D, Pastorino L, Lantieri F, Castagnola P, Iervasi E, Ponassi M, Profumo A, Tkachenko K, Rosano C, Candiani S*, Bachetti T. A multi-omics approach reveals impaired lipid metabolism and oxidative stress in a zebrafish model of Alexander disease. *Redox Biol.* 2025;81:103544. * corresponding author
2. Bozzo M, Lacalli TC, Obino V, Caicci F, Marcenaro E, Bachetti T, Manni L, Pestarino M, Schubert M, **Candiani S**. Amphioxus neuroglia: Molecular characterization and evidence for early compartmentalization of the developing nerve cord. *Glia.* 2021, 69(7):1654-1678.
3. Guameri I, Bozzo M, Perez Criado N, Serafini E, Manfè G, Tagliapietra D, Fiorin R, Scapin L, Povero P, Bellitto D, Ferrando S, Amaroli A, Castellano L, Pestarino M, Schubert M, Candiani S. Amphioxus (*Branchiostoma lanceolatum*) in the North Adriatic Sea: ecological observations and spawning behavior. *Integr Zool.* 2025 Mar;20(2):331-343.
4. Patrizia Perri P, Ponzoni M, Corrias MV, Ceccherini I, **Candiani S**, Bachetti T. A Focus on Regulatory Networks Linking MicroRNAs, Transcription Factors and Target Genes in Neuroblastoma. *Cancers (Basel).* 2021, 13(21):5528.
5. **Candiani S**, Carestiato S, Mack AF, Bani D, Bozzo M, Obino V, Ori M, Rosamilia F, De Sarlo M, Pestarino M, Ceccherini I, Bachetti T. Alexander Disease Modeling in Zebrafish: An In Vivo System Suitable to Perform Drug Screening. *Genes (Basel).* 2020, 11(12):1490.
6. Corallo,D, Donadon,M, Pantile,M, Sidarovich,V, Cocchi,S, Ori,M, De Sarlo,M, **Candiani,S**, Frasson,C, Distel,M, Quattrone,A, Zanon,C, Basso,G, Tonini,GP, Aveic,S. LIN28B increases neural crest cell migration and leads to transformation of trunk sympathoadrenal precursors. *Cell Death Differ* 2020. 27(4):1225-1242.
7. Pesce,S, Greppi,M, Ferretti,E, Obino,V, Carlomagno,S, Rutigliani,M, Thoren,FB, Sivori,S, Castagnola,P[‡], **Candiani,S[‡]**, Marcenaro,E[‡]. miRNAs in NK Cell-Based Immune Responses and Cancer Immunotherapy. *Front Cell Dev Biol.* 2020, 8:119. **‡These authors share senior authorship.**
8. Pesce,S, Squillario,M, Greppi,M, Loiacono,F, Moretta,L, Moretta,A, Sivori,S, Castagnola,P, Barla,A **‡**, **Candiani,S [‡]**, Marcenaro,E **‡**. New miRNA Signature Heralds Human NK Cell Subsets at Different Maturation Steps: Involvement of miR-146a-5p in the Regulation of KIR Expression. *Front Immunol.* 2018, 9:2360. **‡These authors share senior authorship.**
9. Corallo D, **Candiani S**, Ori M, Aveic S, Tonini GP. The zebrafish as a model for studying neuroblastoma. *Cancer Cell Int.* 2016, 16:82.
10. Garbarino,G, Costa,S, Pestarino,M, **Candiani,S**. Differential expression of synapsin genes during early zebrafish development. *Neuroscience* 2014, 280:351-367.
11. **Candiani S**. Focus on miRNAs evolution: a perspective from amphioxus. *Brief Funct Genomics.* 2012 Mar;11(2):107-17.
12. Holland,LZ, Albalat,R, Azumi,K, Benito-Gutiérrez,E, Blow,MJ, Bronner-Fraser,M, Brunet,F, Butts,T, **Candiani,S**, Dishaw,LJ, et al.. The amphioxus genome illuminates vertebrate origins and cephalochordate biology. *Genome Res* 2008, 18:1100-1111.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV