

Annamaria Locascio, PhD



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Current Position: Ricercatore

Current Affiliation:

Department of Biology and Evolution of Marine Organisms
Stazione Zoologica Anton Dohrn
Napoli (Italy)

Education/Training/Experience

Institute and Location	Degree (if applicable)	Year	Field of Study
Stazione Zoologica "Anton Dohrn"	Undergraduate student	1991-1993	DNA methylation in sea urchin embryogenesis
University Federico II of Napoli	Degree in Biological Sciences	1993	Molecular Biology
University Federico II of Napoli	Postgraduate training	1993-1994	Homeobox genes in CNS development
EMBL, Heidelberg, Germany	short-term fellowship	1996	Microinjection techniques
University Federico II of Napoli	PhD in Molecular and Cellular Biology and Pathology	1994-1999	Homeobox genes and their regulatory cascades in anterior CNS development
Cajal Institute (CSIC), Madrid, Spain	Post-doc EU project fellowship	1999-2001	Snail genes superfamily during vertebrate EMT
Cajal Institute (CSIC), Madrid, Spain	Spanish Ministry Post-doc fellowship	2001-2002	Snail genes superfamily in evolution and development

Stazione Dohrn	Zoologica	“Anton	Post-doc (temporary researcher)	2002-2008	Development of the anterior CNS
Stazione Dohrn	Zoologica	“Anton	Research investigator	2009-present	Regulatory networks controlling pigment cells and ocellus differentiation. Alterations induced by CEC

Research Interests:

- 1) PRIN 2020: Impact of microplastics and associated contaminants on reproduction and development: a comparative and multidisciplinary study on mechanisms of action and protective strategies.
- 2) Characterization of the Natural Organic Matter (NOM) from sea and terrestrial environments, its complex interaction with pollutants of emerging concern (CEC) and impact on the marine organisms.
- 3) Eye regulatory network in chordate development and evolution. Differential RNAseq analyses and characterization of Onecut genes genetic pathway.
- 4) Functional non-coding elements conserved among chordates: coming across Tunicates

Appointments and awards

27-6-2000 European Patent in Biomedicine. Patent number: 00938837.2
 Title: “Snail a new marker in tumor progression and a guidance protein for new anti-tumor products”

Students’ Supervision

2022-2025 and 2013-2015 Director of studies of two PhD students: XXXVIII cycle PhD co-funded program UniNA/SZN and Open University-PhD student.

2019-2021 Tutor of two research fellowships.

2014-2021 Internal supervisor of three Open University-PhD students.

2012-2016 Tutor of three post-doc fellowship for the project: “Characterization of the Onecut genetic pathway and of its functional role during embryonic development”

Tutor of 16 thesis degree students in Biological Sciences at the University “Federico II” of Naples.

Publications

Author of 42 publications on ISI-journals (h index: 21) and 1 book chapter

List of publications of the last 10 years

Peer-reviewed publications:

Pezzotti MR, Locascio A, Racioppi C, Fucci L, Branno M. Auto and cross regulatory elements control *Onecut* expression in the ascidian nervous system. *Dev. Biol.* (2014), 390, 273-287.

Esposito R, Racioppi C, Pezzotti MR, Branno M, Locascio A*, Ristoratore F*, Spagnuolo A*. The ascidian pigmented sensory organs: structures and developmental programs (*these authors equally contributed). *Genesis* (2015), 53, 15-33.

Vassalli QA, Anishchenko E, Caputi L, Sordino P, D'Aniello S, Locascio A. Regulatory elements retained during chordate evolution: coming across tunicates. *Genesis* (2015), 53, 66-81.

Crocetta F, Marino R, Cirino P, Macina A, Staiano L, Esposito R, Pezzotti MR, Racioppi C, Toscano F, Locascio A, Ristoratore F, Spagnuolo A, Zanetti L, Branno M, Sordino P. Mutation studies in ascidians: a review. *Genesis* (2015), 53:160-169.

D'Agostino Y, Locascio A, Ristoratore F, Spagnuolo A, Sordino P, Borra M, D'Aniello S. A rapid and cheap methodology for CRISPR/Cas9 zebrafish mutant screening. *Mol. Biotechnology* (2016), 58, 73-78.

Nittoli V, Sepe RM, Coppola U, D'Agostino Y, De Felice E, Palladino A, Vassalli QA, Locascio A, Ristoratore F, Spagnuolo A, D'Aniello S, Sordino P. A comprehensive analysis of neurotrophins and neurotrophin tyrosine kinase receptors expression during development of zebrafish. *J. Comp. Neurology* (2018), 526, 1057-1072.

Ambrosino L, Vassalli QA, D'Agostino Y, Esposito R, Cetrangolo V, Caputi L, Amoroso A, Aniello F, D'Aniello S, Chatzigeorgiou M, Chiusano ML, Locascio A. Functional conserved non-coding elements among tunicates and chordates. *Dev. Biol.* (2019), 448, 101-110.

A Liberti, I Bertocci, A Pollet, L Musco, A Locascio, F Ristoratore, A Spagnuolo, P Sordino. An indoor mesocosm study of the combined effect of industrial pollution and turbulent events on the gut environment in a marine invertebrate. *Marine Environ. Res.* (2020), 158, 104950.

Macel ML, Ristoratore F, Locascio A, Spagnuolo A, Sordino P, D'Aniello S. Sea as a color palette: the ecology and evolution of fluorescence. *Zoological Lett.* (2020) 10, 6:9. doi: 10.1186/s40851-020-00161-9

Caccavale F, Coppola U, Vassalli QA, La Vecchia C, Palumbo A, D'Aniello E, Locascio A, Ristoratore F, D'Aniello S. Regulation of neuronal Nitric oxide synthase. Insights from transphyletic conservation in cephalochordates and tunicates. *Dev. Genes Evol.* (2020) doi: 10.1007/s00427-020-00668-3.

QA Vassalli, C Colantuono, V Nittoli, A Ferraioli, G Fasano, F Berruto, ML Chiusano, R Kelsh, P Sordino, A Locascio. *Onecut* regulates core components of the molecular machinery for neurotransmission in photoreceptor differentiation. *Front Cell Dev Biol* (2021) doi:10.3389/fcell.2021.602450.

Marotta P, Salatiello F, Ambrosino L, Berruto F, Chiusano ML, Locascio A. The *Ascidia Ciona robusta* Provides Novel Insights on the Evolution of the AP-1 Transcriptional Complex. *Front Cell Dev Biol.* (2021) 9:709696. doi: 10.3389/fcell.2021.709696.

Pontoni L., La Vecchia C., Boguta P. Sirakov M., D’Aniello E., Fabbicino M., Locascio A. Natural organic matter controls metal speciation and toxicity for marine organisms: a review. *Environ Chem. Lett.* (2021) doi: 10.1007/s10311-021-01310-y.

Esposito A, Ambrosino L, Piazza S, D’Aniello S, Chiusano ML, Locascio A. Evolutionary Adaptation of the Thyroid Hormone Signaling Toolkit in Chordates. *Cells.* (2021) 10:3391. <https://doi.org/10.3390/cells10123391>doi.org/10.3390/cells10123391.

Salatiello F, Gerdol M, Pallavicini A, Locascio A, Sirakov M. Comparative analysis of novel and common reference genes in adult tissues of the mussel *Mytilus galloprovincialis*. *BMC Genomics* (2022) 23:349. doi: 10.1186/s12864-022-08553-1

Locascio A, Vassalli QA, Castellano I, Palumbo A. Novel Insights on Nitric Oxide Synthase and NO Signaling in Ascidian Metamorphosis. *Int. J. Mol. Sci.* (2022) 23, 3505.

Book Chapters:

Martinez-Morales JR, Locascio A. Vertebrate eye networks 1: Vertebrate eye evolution. In: *Biomedicine/Life sciences series_ Organogenetic gene networks.* 2015, Springer, *In press.*