Personal information

Senior Researcher; ORCID number http://orcid.org/0000-0001-6660-071X;

Date and Place of Birth: 13/12/56, Avellino; Nationality: Italian;

Google scholar: https://scholar.google.com/citations?user=b_57mxUAAAAJ&hl=iTel:

Previous positions:

2000-to date Senior Researcher at the Zoological Station of Naples
1989-2000 Research Investigator at the Zoological Station of Naples.
1983-1988 Fellowship at the Zoological Station of Naples.
1983-1989 Fellowship at the Stazione Zoologica A. Dohrn Napoli
1981 MSc in Biology *cum laude*, Universita' di Napoli, Italy.

Prizes and Awards

June 1999 Invited Teacher at the TMR course in Evolutionary Developmental Biology, ascidian session, Roscoff, France.
June 2000 Invited Teacher at the TMR course in Evolutionary Developmental Biology, ascidian session, Roscoff, France.

Visiting academic positions:

1994-1995 Visiting Scientist at the Institute of Human Genetics, Laboratory of Prof Chris Wylie, Minneapolis, University of Minnesota.

➢Teaching activities

Seminars on RNA functions and Marine model systems (Ascidians) for PhD Open University program, Stazione Zoologica Anton Dohrn Naples

2021 Seminar "Sviluppo ed evoluzione degli organi sensoriali nella larva di ascidia" Corso di laurea magistrale in scienze della natura Universita' di Padova

➢Tutoring activities:

Tutor of more than 20 degree thesis and 6 PhD from national and international academic institutions.

PhD supervision.

1) 2003-2006 Palmira D'Ambrosio Ph.D.Open University. Project Title: "regulatory elements controlling CisFrp1/5 expression in Ciona intestinalis during embryogenesis".
2) 2007-2009 Fateema Parveen. Ph.D.Open University. Project Title: "Ci-TCF gene function and its involvement in Ciona intestinalis pigment cell differentiation".
3) 2010-2013 Rosaria Esposito Ph.D.Open University. Project Title: "Functional studies of the *Ci-gsx* gene in the developing central nervous system of *Ciona intestinalis".*
4) 2015-2017 Antonio Palladino PhD Stazione Zoologica/University of Naples Federico II Veterinary. Project title "Ci-gsx gene an early marker of photoreceptor differentiation in *Ciona intestinalis*".

5) 2017-2020 Maria Concetta Eliso PhD Stazione Zoologica/University of Siena. Project title: “Ciona intestinalis as model system for ecotoxicological studies”.
6) 2021-2024 Emma Ferrari. PhD Stazione Zoologica/University of Siena. Project title: PS NPs as proxy for nanoplastics for studying uptake, biodisposition, morphological and biological effects on Ciona robusta developmental stages.

➢ Other work experience.
2003 Speaker on “Endoderm formation in Ciona” 4th tunicate meeting Marseille

2011 Speaker on “A dive into the circuits of sensory organs development in Ciona“ 6th Tunicate Meeting Montreal

2013 Invited Speaker EFOR meeting, on "Functional studies in model organisms” Paris

2013 Organizer of the 7th Tunicate meeting; 22-26 july, Naples

2017 Organizer of the SZN Stand at the event: Futuro remoto “Bagliori nel buio”

Reviewer of research projects for French National research Agency (ANR)

Internal Examiner of 3 PhD Thesis Open University, Stazione Zoologica Anton Dohrn Naples

Member of different mini viva panels PhD Open University, Stazione Zoologica Anton Dohrn Naples

Member of the Third-party monitor supervisory staff PhD Open University, Stazione Zoologica Anton Dohrn Naples

Advisor of PhD program in BIOSCIENCES, University of Padova (2019-2021)

Reviewer PhD thesis Bioinformatics (University of Sannio (2016).

➢Administrative role and position responsibility
2008-2012 member of the seminar Committee SZN Napoli
2009-2013 member of the PhD Open University UK Committee SZN Napoli
Since 2017 member of the board of the PhD Open University UK

➢Research Grants:
1999-2003: CEE project: “Embryos against cancer”. Coorodinator Dr. Jean Stephane Joly
2005-2008: CEE project : “Pluripotency associated genes to de-differentiate neural cells into pluripotent cells. PLURIGENES”
2013-2017: FIRB Grant: “Non-Coding RNA Explosion: Novel Implications in Neurotrophin Biology”. Coordinator: Salvatore D’Aniello.
2017-2019: ABBACO (MIUR, at the SZN)
2014/2020 (2019-2021) POR CAMPANIA FESR Antitumor Drugs and Vaccines from the Sea (ADViSE) PG/2018/0494374

2017-2021 COST ACTION CA16023 "MARISTEM Stem cells of marine/aquatic invertebrates: from basic research to innovative applications" (Working Group member)
2022- JPI Oceans call “DeuteroNoise: Characterization of maritime noise in different european basins and its impact on ecological relevant deuterostome invertebrates”

➢Publications

Application of transcriptome profiling to inquire into the mechanism of nanoplastics toxicity during Ciona robusta embryogenesis MC Eliso, E Bergami, L Bonciani, R Riccio, G Belli, M Belli, I Corsi, A Spagnuolo. Environmental Pollution 318, 120892 2023

Short-Term Exposure to Nanoplastics Does Not Affect Bisphenol A Embryotoxicity to Marine Ascidian Ciona robusta. E Ferrari, MC Eliso, A Bellingeri, I Corsi, A Spagnuolo. Biomolecules 12 (11), 1661 2022

Phenotypic and Gene Expression Profiles of Embryo Development of the Ascidian Ciona robusta Exposed to Dispersants. MC Eliso, I Corsi, L Manfra, A Spagnuolo. Water 14 (10), 1539 2022

A pan-metazoan concept for adult stem cells: the wobbling Penrose landscape. B Rinkevich, L Ballarin, P Martinez, I Somorjai, O Ben-Hamo, I Borisenko, E Berezikov, A Ereskovsky, E Gazave, D Khnykin, L Manni, O Petukhova, A Rosner, E Röttinger, A Spagnuolo, M Sugni, S Tiozzo, B Hobmayer. Biological Reviews 97 (1), 299-325 2022

Current Knowledge on Stem Cells in Ascidians in ADVANCES IN AQUATIC INVERTEBRATE STEM CELL RESEARCH. From basic research to innovative applications. V Vanni, C Anselmi, L Ballarin, L Drago, F Gasparini, T Gordon, A Peronato, B Rosental, A Rosner, B Rinkevich, A Spagnuolo, L Manni, A Voskoboynik L Ballarin; B Rinkevich; B Hobmayer. Basel: MDPI, Page Range. 2022

Brain sensory organs of the Ascidian Ciona robusta: Structure, function and developmental mechanisms. P Olivo, A Palladino, F Ristoratore, A Spagnuolo. Frontiers in Cell and Developmental Biology, 2435 2021

Stem cells of aquatic invertebrates as an advanced tool for assessing ecotoxicological impacts. A Rosner, J Armengaud, L Ballarin, S Barnay-Verdier, F Cima, AV Coelho, I Domart-Coulon, D Drobne, AM Genevière, A Jemec Kokalj, E Kotlarska, D M Lyons, T Mass, G Paz, K Pazdro, L Perić, A Ramšak, S Rakers, B Rinkevich, A Spagnuolo, M Sugni, S Cambier. Science of the Total Environment 771, 144565 2021

Sea as a color palette: the ecology and evolution of fluorescence. ML Macel, F Ristoratore, A Locascio, A Spagnuolo, P Sordino, S D’Aniello. Zoological Letters 6 (1), 1-11 2020

Toxicity of nanoplastics during the embryogenesis of the ascidian Ciona robusta (Phylum Chordata). MC Eliso, E Bergami, L Manfra, A Spagnuolo, I Corsi. Nanotoxicology 14 (10), 1415-1431 2020

New approaches on the use of tunicates (Ciona robusta) for toxicity assessments. MC Eliso, L Manfra, F Savorelli, A Tornambè, A Spagnuolo. Environmental Science and Pollution Research 27 (25), 32132-32138 2020

An indoor study of the combined effect of industrial pollution and turbulence events on the gut environment in a marine invertebrate. A Liberti, I Bertocci, A Pollet, L Musco, A Locascio, F Ristoratore, A Spagnuolo, P Sordino. Marine Environmental Research 158, 104950 2020

Transcriptional regulation of the Ciona Gsx gene in the neural plate. C Hudson, R Esposito, A Palladino, L Staiano, D Ferrier, E Faure, P Lemaire, H Yasuo, A Spagnuolo. Developmental Biology 448 (2), 88-100 2019

Detection of long non–coding RNA homology, a comparative study on alignment and alignment–free metrics. TMR Noviello, A Di Liddo, GM Ventola, A Spagnuolo, S D'Aniello, M Ceccarelli, L Cerulo. BMC Bioinformatics 19 (1), 1-12 2018

A comprehensive analysis of neurotrophins and neurotrophin tyrosine kinase receptors expression during development of zebrafish. V Nittoli, RM Sepe, U Coppola, Y D'Agostino, E De Felice, A Palladino, Q A Vassalli, A Locascio, F Ristoratore, A Spagnuolo, S D'Aniello, P Sordino. Journal of Comparative Neurology 526 (6), 1057-1072 2018

Ciona robusta as model system for regeneration and in vitro cell culture. A Spagnuolo, M Francone, F Ristoratore. ISJ-INVERTEBRATE SURVIVAL JOURNAL 15, 113-113 2018

Identification of long non-coding transcripts with feature selection: a comparative study. GMM Ventola, TMR Noviello, S D'Aniello, A Spagnuolo, M Ceccarelli, L Cerulo. BMC Bioinformatics 18 (1), 1-16 2017

Evolutionary recruitment of flexible Esrp-dependent splicing programs into diverse embryonic morphogenetic processes. D Burguera, Y Marquez, C Racioppi, J Permanyer, A Torres-Méndez, R Esposito, B Albuixech-Crespo, L Fanlo, Y D'Agostino, A Gohr, E Navas-Perez, A Riesgo, C Cuomo, G Benvenuto, L A Christiaen, E Martí, S D'Aniello, A Spagnuolo, F Ristoratore, M I Arnone, J Garcia-Fernàndez, M Irimia. Nature communications 8 (1), 1-15 2017

Patterning of brain precursors in ascidian embryos. R Esposito, H Yasuo, C Sirour, A Palladino, A Spagnuolo, C Hudson. Development 144 (2), 258-264 2017

Stem Cells And Regeneration. P Foerster, M Daclin, S Asm, M Faucourt, A Boletta, A Genovesio, A Spagnuolo et al. Development 144, 2 2017

A rapid and cheap methodology for CRISPR/Cas9 zebrafish mutant screening. Y D'Agostino, A Locascio, F Ristoratore, P Sordino, A Spagnuolo, M Borra, S D'Aniello. Molecular Biotechnology 58 (1), 73-78 2016

Ciona intestinalis as a Marine Model System to Study Some Key Developmental Genes Targeted by the Diatom-Derived Aldehyde Decadienal. A Lettieri, R Esposito, A Ianora, A Spagnuolo. Marine Drugs 13 (3), 1451-1465 2015

Mutation studies in ascidians: a review. F Crocetta, R Marino, P Cirino, A Macina, L Staiano, R Esposito, M R Pezzotti, C Racioppi, F Toscano, E De Felice, A Locascio, F Ristoratore, A Spagnuolo, L Zanetti, M Branno, P Sordino. Genesis 53 (1), 160-169 2015

The ascidian pigmented sensory organs: structures and developmental programs. R Esposito, C Racioppi, MR Pezzotti, M Branno, A Locascio, F Ristoratore, A Spagnuolo. Genesis 53 (1), 15-33 2015

New insights into the evolution of metazoan tyrosinase gene family. R Esposito, S D'Aniello, P Squarzoni, MR Pezzotti, F Ristoratore, A Spagnuolo. PLoS One 7 (4), e35731 2012

FGF/MAPK/Ets signaling renders pigment cell precursors competent to respond to Wnt signal by directly controlling Ci-Tcf transcription. P Squarzoni, F Parveen, L Zanetti, F Ristoratore, A Spagnuolo. Development 138 (7), 1421-1432 2011

Genetic perspectives on the ascidian central nervous system. A Locascio, F Ristoratore, A Spagnuolo, L Zanetti, M Branno. Invertebrate Survival Journal 6 (1 (Suppl)), S35-S45 2009

Natural variation of model mutant phenotypes in Ciona intestinalis. P Sordino, N Andreakis, ER Brown, NI Leccia, P Squarzoni, R Tarallo, C Alfano, L Caputi, P D'Ambrosio, P Daniele, E D'Aniello, S D'Aniello, S Maiella, V Miraglia, M T Russo, G Sorrenti, M Branno, L Cariello, P Cirino, A Locascio, A Spagnuolo, L Zanetti, F Ristoratore. PLoS One 3 (6), e2344 2008

Developmental expression and transcriptional regulation of Ci-Pans, a novel neural marker gene of the ascidian, Ciona intestinalis. C Alfano, MT Russo, A Spagnuolo. Gene 406 (1-2), 36-41 2007

Interplay of negative and positive signals controls endoderm-specific expression of the ascidian Cititf1 gene promoter. A Fanelli, G Lania, A Spagnuolo, R Di Lauro. Developmental biology 263 (1), 12-23 2003

A genomewide survey of developmentally relevant genes in Ciona intestinalis. S Wada, M Tokuoka, E Shoguchi, K Kobayashi, A Di Gregorio, A Spagnuolo, M Branno, Y Kohara, D Rokhsar, M Levine, H Saiga, N Satoh, Y Satou. Development genes and evolution 213 (5), 222-234 2003

Unusual number and genomic organization of Hox genes in the tunicate Ciona intestinalis. A Spagnuolo, F Ristoratore, A Di Gregorio, F Aniello, M Branno, R Di Lauro. Gene 309 (2), 71-79 2003

Ci-GATAa, a GATA-class gene from the ascidian Ciona intestinalis: Isolation and developmental expression. P D'Ambrosio, A Fanelli, M Pischetola, A Spagnuolo. Developmental Dynamics 226 145-148 2003

Cititf1 and endoderm differentiation in Ciona intestinalis. A Spagnuolo, R Di Lauro. Gene 287 (1-2), 115-119 2002

The draft genome of Ciona intestinalis: insights into chordate and vertebrate origins. Science 298 (5601), 2157-67 2002

Expression and functional analysis of Cititf1, an ascidian NK-2 class gene, suggest its role in endoderm development. F Ristoratore, A Spagnuolo, F Aniello, M Branno, F Fabbrini, R Di Lauro. Development 126 (22), 5149-5159 1999

The roles of maternal cadherin and catenins in adhesion and signalling in the early xenopus embryo. J Heasman, M Kofron, A Spagnuolo, E Resnik, C Wylie. FASEB JOURNAL 11 (9), A1447-A1447 1997

The roles of maternal alpha-catenin and plakoglobin in the early Xenopus embryo. M Kofron, A Spagnuolo, M Klymkowsky, C Wylie, J Heasman. Development 124 (8), 1553-1560 1997

Cloning of ascidian homeobox genes provides evidence for a primordial chordate cluster. A Di Gregorio, A Spagnuolo, F Ristoratore, M Pischetola, F Aniello, M Branno, L Cariello, R Di Lauro. Gene 156 (2), 253-257 1995

Isolation and characterization of two genes encoding calitoxins, neurotoxic peptides from Calliactis parasitica. A Spagnuolo, L Zanetti, L Cariello, R Piccoli. Gene 138 (1-2), 187-191 1994

Gonadotropin-releasing hormone in elasmobranch (electric ray, Torpedo marmorata) brain and plasma: chromatographic and immunological evidence for chicken GnRH II and novel molecular forms. JA King, AA Steneveld, RP Millar, S Fasano, G Romano, A Spagnuolo, L Zanetti, R Pierantoni. Peptides 13 (1), 27-35 1992

Molecular forms of immunoreactive gonadotropin-releasing hormone in hypothalamus and testis of the frog, Rana esculenta. L Cariello, G Romano, A Spagnuolo, L Zanetti, S Fasano, S Minucci, L Di Matteo, R Pierantoni, G Chieffi. General and comparative endocrinology 75 (3), 343-348 1989

Gnrh-like substances in hypothalamus and testis of the frog rana-esculenta. R Pierantoni, S Fasano, S Minucci, L Dimatteo, G Chieffi, L Cariello, G Romano, A Spagnuolo, L Zanetti. General And Comparative Endocrinology 74 (2), 258-258 1989

Calitoxin, a neurotoxic peptide from the sea anemone Calliactis parasitica: Amino-acid sequence and electrophysiological properties. L Cariello, A De Santis, F Fiore, R Piccoli, A Spagnuolo, L Zanetti. Biochemistry 28 (6), 2484-2489 1989

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Isolation and partial characterization of Rhizolysin, a high molecular weight protein with hemolytic activity, from the jellyfish Rhizostoma pulmo. L Cariello, G Romano, A Spagnuolo, L Zanetti. Toxicon 26 (11), 1057-1065 1988

Effects of opioids and antagonists on the rate of sea urchin sperm progressive motility. L Cariello, L Zanetti, A Spagnuolo, L Nelson. The Biological Bulletin 171 (1), 208-216 1986

Endogenous opioids in marine invertebrates. R Piccoli, D Melck, A Spagnuolo, S Vescia, L Zanetti. Comparative Biochemistry and physiology. C, d 1985