

Loriano Ballarin's CV

Loriano Ballarin was born in Venice on May, 26, 1959. He is Associate professor of Zoology (BIO/05) at the Department of Biology, University of Padova (School of Science). In 1982 he got his MD in Biological Sciences at the University of Pisa and the Diploma in Biology of the Scuola Normale Superiore in Pisa. After some research experiences abroad (University of Zurich, CH; Glaxo, Ware, UK) and in Italy (Glaxo S.p.A., Verona), he got his PhD in Evolutionary Biology at the University of Padova, in 1989. From 1991 to 1999, he was researcher of Comparative Anatomy (E02B).

Scientific activity

Research interests are directed to the study of the role of haemocytes in defence reactions of marine invertebrates, with particular reference to ascidians. Recently, the research field was enlarged to include responses to oxidative stress. Research collaborations with various national and foreign scientific institutions. Author of more than 135 research articles on peer-reviewed scientific journals with impact factor and more than 200 communications at national and international conferences (see <https://sites.google.com/site/ascidianbiologylab/our-staff/loriano-ballarin>). In 2009, awarded from Japanese Society for the Promotion of Science with a 2-month fellowship at Kochi (Japan) University for collaboration with prof. K. Kawamura. He promoted a consortium agreement between the University of Kochi and the University of Padova. In 2015 and 2017, visiting scientist (1 month) at the Institute for Evolution and Biodiversity of the University of Münster (Germany). Past President (2009-2015) of the Italian Association of Developmental and Comparative Immunobiology (SIICS). Since 2015, member of the Directive Board of the Italian Zoological Society (UZI). Past chair of the COST Action 16203 MARISTEM "Stem cells of marine/aquatic invertebrates: from basic research to innovative applications".

Reviewer for various international scientific journals and international projects. Member of the Editorial Board of the Invertebrate Survival Journal. Member of the Organising Committee of various scientific meetings.

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Didactic activity

Undergraduate courses for the first-cycle degrees in Environmental Science and Technology and in Biology; graduate courses for the degree in Evolutionary Biology. Courses of General Biology for the Faculty of Medicine and for the Faculty of Educational Sciences.

Involved in the organisation, together with colleagues from other Universities, of summer schools in marine biology for graduate and PhD students.

Tutoring activity for undergraduate, graduate and PhD students.

Member of commissions for the admission to PhD, for the final PhD examination, for the evaluation of candidates to research position, per the evaluation of PhD thesis of foreign institutions.

Istitutional Activities

Since 1996, member, and since 1999, coordinator of the Departmental Committee for the coordination of didactic activity.

From 2003 to 2014, delegate of the Course Council in Biology in the above-reported Committee.

From 2005 to 2008, member of the Technical-Scientific Committee of the Interdepartmental Service Centre of the Interdepartmental Building.

From 2008 to 2010, delegate of the Faculty of Science in the University Ethical Committee for Experiment on Animal (CEASA).

Since 2009, member of the Didactic Committee of the Department of Biology.

From 2007 to 2013, vice-president of the Course Council in Environmental Sciences and Technology.

Publications (from 2018, out of 139)

- Ferro D., Franchi N., Bakiu R., Ballarin L., Santovito G. (2018) - Molecular characterization and metal induced gene expression of the novel glutathione peroxidase 7 from the chordate invertebrate *Ciona robusta*. *Comp. Biochem. Physiol.* 205C: 1-7. doi: 10.1016/j.cbpc.2017.12.002; WOS:000427217800001.
- Ballarin L., Rinkevich B., Bartscherer K., Burzynski A., Cambier S., Cammarata M., Domart-Coulon I., Drobne D., Encinas J.M., Frank U., Geneviere A.-M., Hobmayer B., Löhelaid H., Lyons D., Martinez P., Oliveri P., Peric L., Piraino S., Ramšak A., Rakers S., Rentzsch F., Rosner A., Silva T.H, Somorjai I., Suleiman S., Varela Coelho A. (2018) - Maristem - stem cells of marine/aquatic invertebrates: from basic research to innovative applications. *Sustainability* 10: 526. doi: 10.3390/su10020526; WOS:000425943100249; SCOPUS: 2-s2.0-85042100697. PMID: 28527417.
- Guariento L. A., Bonvicini M. C., Ballarin L., Devincenzo U., Gardini G., Moretto E., Pantini P., Nicolosi P. (2018) – Giovanni Canestrini’s heritage at the Zoology Museum of Padova University (Italy): a rediscovery of his arachnological collections and described species. *Arachnologische Mitteilungen/Arachnology Letters* 55: 36-41. doi: 10.30963/aramit5506.
- Manni L., Anselmi C, Cima F., Gasparini F., Voskoboynik A., Martini M., Peronato A., Burighel P., Zaniolo G., Ballarin L. (2018) - Sixty years of experimental studies on the blastogenesis of the colonial tunicate *Botryllus schlosseri*. *Dev. Biol.* 448: 293-308. doi: 10.1016/j.ydbio.2018.09.009; PMID: 30217596.
- Franchi N., Ballarin L., Peronato A., Cima F., Grimaldi A., Girardello R., de Eguileor M. (2019) - Functional amyloidogenesis in immunocytes from the colonial ascidian *Botryllus schlosseri*: evolutionary perspective. *Dev. Comp. Immunol.* 90: 108-120. doi: 10.1016/j.dci.2018.09.010. WOS: 000449130300013; SCOPUS: 2-s2.0-85053787534; PMID: 30236880.
- Ballarin L., Zancanaro E., Nicolosi P. (2019) - Giovanni Canestrini’s catalogue of the marine malacological collection at the Museo di Zoologia, Padua. *Arch. Nat. Hist.* 46.1: doi: 10.3366/anh.2019.0553; WOS: 000462967600005; SCOPUS: 2-s2.0-85047667606.
- Peronato A., Drago L, Rothbaecher U, Macor P, Ballarin L., Franchi N. (2020) - Complement system and phagocytosis in a colonial protochordate. *Dev. Comp. Immunol.* 103: 103530. doi: 10.1016/j.dci.2019.103530. WOS: 000500050700029; SCOPUS: 2-s2.0-85074235737.
- Peronato A., Franchi N., Ballarin L. (2020) - Insights into the complement system of tunicates: C3a/C5aR of the colonial ascidian *Botryllus schlosseri*. *Biology* 9: 263. doi: 10.3390/biology9090263. IF (2019): 3.796. WOS: 000580073300001; SCOPUS: 2-s2.0-85093877541.
- Peronato A., Franchi N., Ballarin L. (2020) - BsTLR1: a new member of the TLR family of recognition proteins from the colonial ascidian *Botryllus schlosseri*. *Fish Shellfish Immunol.* 106: 967–974. doi: 10.1016/j.fsi.2020.09.006. WOS: 000579494400100
- Ferrario C., Sugni M., Somorjai I.M.L., Ballarin L. (2020) - Beyond adult stem cells: dedifferentiation as a unifying mechanism underlying regeneration in invertebrate deuterostomes. *Front. Cell. Dev. Biol.* 8: 587320. doi: 10.3389/fcell.2020.587320. IF (2019): 5.186. WOS: 000583832600001; SCOPUS: 2-s2.0-85094954252.
- Drago L., Peronato A., Franchi N., Ballarin L., Bakiu R., Santovito G. (2021) - Stress granules in *Ciona robusta*: first evidences of TIA-1-related nucleolysin and tristetraprolin gene expression under metal exposure. *Comp. Biochem. Physiol.* 243C: 108977. doi: 10.1016/j.cbpc.2021.108977. SCOPUS: 2-s2.0-85099621936.
- Rosner A., Armengaud J., Ballarin L., Barnay-Verdier S., Cima F., Coelho Ana V., Domart-Coulon I., Drobne D., Genevière A.-M., Jemec Kokalj A., Kotlarska E., Lyons D.M., Mass T., Paz G., Pazdro

- K., Perić L., Ramšak A., Rakers S., Rinkevich B., Spagnuolo A., Sugni M., Cambier S. (2020) - Stem cells of aquatic invertebrates as an advanced tool for assessing ecotoxicological impacts. *Sci Total Environ* 771: 144565. doi: 10.1016/j.scitotenv.2020.144565. SCOPUS: 2-s2.0-85100452474.
- Ballarin L., Cammarata M, Luporini P. (2021) - Ancient immunity. Phylogenetic emergence of recognition-defense mechanisms. *Biology* 10, 342. doi: 10.3390/biology10040342. SCOPUS: 2-s2.0-85105332283; WOS: 000642722700001.
- Peronato A., Minervini G., Tabarelli M., Ballarin L., Franchi N. (2021) - Characterisation and functional role of a novel C1qDC protein from a colonial ascidian. *Dev. Comp. Immunol.* 122: 104077. SCOPUS: 2-s2.0-85105251462; WOS: 000658654300007. doi: 10.1016/j.dci.2021.104077.
- Ballarin L., Karahan A., Salvetti A., Rossi L., Manni L., Rinkevich B., Rosner A., Voskoboynik A., Rosental B., Canesi L., Anselmi C., Pinsino A., Tohumcu B.E., Jemec Kokalj A., Dolar A., Novak S., Sugni M., Corsi I. Drobne D. (2021) - Stem cells and innate immunity in aquatic invertebrates: bridging these seemingly disparate disciplines for new discoveries in biology. *Front. Immunol.* 12: 688106. doi: 10.3389/fimmu.2021.688106. SCOPUS: 2-s2.0-85110141147; WOS: 000673218900001.
- Rinkevich B., Ballarin L., Martinez P., Somorjai I., Ben-Hamo O., Borisenko I., Berezikov E., Ereskovsky A., Gazave E., Khnykin, D., Manni L., Petukhova O., Rosner A., Röttinger E., Spagnuolo A., Sugni M., Tiozzo S., Hobmayer B. (2022). A pan-metazoan concept for adult stem cells: the wobbling Penrose landscape. *Biol. Rev.* 97: 299-325. doi: 10.1111/BRV.12801. SCOPUS: 2-s2.0-85116497384; WOS: 000704205100001.
- Martinez P., Ballarin L., Ereskovsky AV, Gazave E, Hobmayer B, Manni L, Rottinger E, Sprecher SG, Tiozzo S, Varela-Coelho A, Rinkevich B. (2022). Articulating the “stem cell niche” paradigm through the lens of non-model aquatic invertebrates. The evolution and diversification of stem cell niches in the animal kingdom. *BMC Biol* 20: 23 doi: 10.1186/s12915-022-01230-5. SCOPUS: 2-s2.0-85123280648; WOS: 000745027100002.
- Drago L., Ferro D., Bakiu R., Ballarin L., Santovito G. (2022) - Typical 2-Cys peroxiredoxins as a defense mechanism against metal-induced oxidative stress in the solitary ascidian *Ciona robusta*. *Antioxidants* 11: 93. doi: 10.3390/antiox11010093. SCOPUS: 2-s2.0-85121848107; WOS: 000757313300001.
- Romano G., Almeida M., Varela Coelho A., Cutignano A., Gonçalves L.G., Hansen E., Khnykin D. Mass T., Ramšak A., Rocha M., da Silva T.H., Sugni M., Ballarin L., Genevière A.-M. (2022) - Biomaterials and bioactive natural products from marine invertebrates: from basic research to innovative applications. *Mar. Drugs* 20: 219. doi: 10.3390/md20040219. SCOPUS: 2-s2.0-85127828455; WOS:000786002600001.
- Tamburini M., Badocco D., Ercadi R., Turicchia E., Zampa G., Gasparini F., Ballarin L., Guerra R.a, Lasut M.T., Makapedua D.M., Mamujaja J., Pastore P., Ponti M. (2022) - Bioaccumulation of mercury and other trace elements in the edible holothurian *Holothuria (Halodeima) atra* in relation to gold mining activities in North Sulawesi, Indonesia. *Front. Mar. Sci.* 9: 863629. doi: 10.3389/fmars.2022.863629. SCOPUS: 2-s2.0-85131307221; WOS:000806594900001.
- Franchi N., Ballarin L., Cima F. (2023) - Botryllin, a novel antimicrobial peptide from the colonial ascidian *Botryllus schlosseri*. *Mar. Drugs* 21: 74. doi: 10.3390/md21020074.