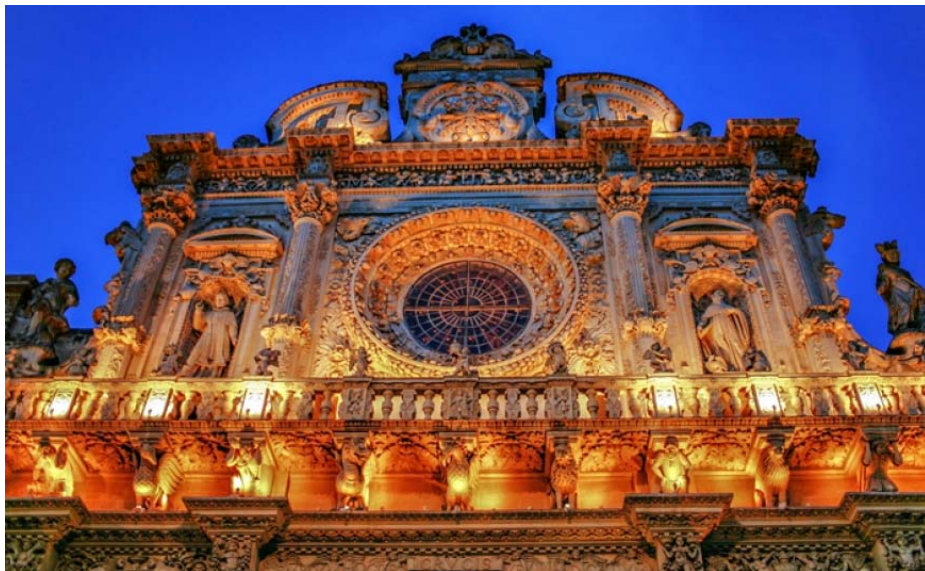*Unione Zoologica Italiana*
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Riassunti

LORIANO BALLARIN

Dipartimento di Biologia, Università di Padova

INTRODUCTION TO MARISTEM - STEM CELLS OF MARINE/AQUATIC INVERTEBRATES: FROM BASIC RESEARCH TO INNOVATIVE APPLICATIONS

Marine/aquatic invertebrates constitute the largest biodiversity and the widest phylogenetic radiation on Earth, from morphologically simple organisms (e.g., sponges, cnidarians), to the more complex mollusks, crustaceans, echinoderms, and protochordates. Today, adult marine/aquatic invertebrate stem cell (MISC) biology is of prime research and medical interest. However, studies on stem cells from organisms outside the classical vertebrate (e.g., human, mouse, and zebrafish) and invertebrate (e.g., *Drosophila*, *Caenorhabditis*) models have not been pursued vigorously. These organisms contain a variety of MISC-types that allow the production of a large number of novel bioactive-molecules, many of which are of significant potential interest for human health. MISCs further participate in aging and regeneration phenomena, including whole-body regeneration.

For years, the European MISC-community has been highly fragmented and has established scarce ties with biomedical industries in an attempt to harness MISCs for human welfare. Thus, it is important to (i) consolidate the European community of researchers working on MISCs; (ii) promote and coordinate European research on MISC biology; (iii) stimulate young researchers to embark on research in MISC-biology; (iv) develop, validate, and share novel MISC tools and methodologies; (v) establish the MISC discipline as a forefront interest of biomedical disciplines, including nanobiomedicine; and (vi) establish collaborations with industries to exploit MISCs as sources of bioactive molecules. In order to fill the recognized gaps, the EC-COST Action 16203 "MARISTEM" has recently been launched.

At its initial stage, the consortium unites scientists from 24 EC countries, Cooperating countries, and Near Neighbor Countries.