

## Luigia Santella



Born in Marigliano (NA) on 10/02/1957

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**Current Position and Affiliation:** Research Director, Research Infrastructures for Marine Biological Resources Department, Stazione Zoologica Anton Dohrn, Naples, Italy

### Education/Training/Experience

Institute and Location	Degree/Function	Year	Field of Study
University of Naples Federico II	Degree in Biological Sciences (summa cum laude)	28/01/1982	Biological Sciences
Cell Biology Laboratory	Research Fellow	1983-1988	Cell & Developmental Biology
Marine Biological Station, Woods Hole, Mass., USA	Visiting Researcher	1983	Neuroscience Research
Electron Microscopy Division, University of Ulm, Germany	Training Experience	1989	Ascidians Embryogenesis
Cornell University, New York, USA ( <i>In Vitro</i> Fertilization Center)	Visiting Researcher	1991	Human <i>In Vitro</i> Fertilization
Department of Physiology of the University of Freiburg, Germany	Training Experience	1997	Computer Programs & Confocal Microscopy
Cell Biology Laboratory, Stazione Zoologica Anton Dohrn	Research Associate	1988-2004	Cell & Developmental Biology
Cell Biology Laboratory, Stazione Zoologica Anton Dohrn	Research Director	2004-present	Cell & Developmental Biology
Cell Signalling Laboratory, Stazione Zoologica Anton Dohrn	Head	2005-2008	Cell & Developmental Biology
Biology & Evolution of Marine Organisms Department	Group Leader	2015-2019	Cell & Developmental Biology
Morpho-Functional Analysis & Bioimaging Unit	Coordinator	2015-2019	Cell & Developmental Biology
Asamushi Research Center for Marine Biology, Tohoku University, Japan	Visiting Scientist	1993-present	Cell & Developmental Biology

## Appointments and Memberships:

2022	Sigma Xi Honor Society Member
2020	Member of the Editorial Board of <i>Cells</i>
2015	Editor of <i>Biochemical Biophysical Research Communications</i>
2015	Member of the Scientific Committee of the European Calcium Society
2014	Member of the Editorial Board of <i>Zoological Letters</i>
2014	Member of the Editorial Board of <i>Zygote</i> .
2004-2009	Member of the Editorial Board of <i>Physiological Reviews</i>
2004	Member of the <i>Accademia Europaea</i>

**Invited Speaker at International Meetings/Symposia/Workshops/Conferences (such as FEBS, Ca<sup>2+</sup>-Binding Proteins, and Ca<sup>2+</sup> Function in Health and Disease, EMBO, FASEB Research, Gordon), and Advanced Courses.**

## Organizer of International Symposia

- 2019 Santella L. *Biochemical Biophysical Research Communications* Editorial Meeting, Naples, Italy, 6-8 December.
- 2013 Santella L. and Chun JT. International Symposium on *The dynamically active egg: The legacy of Ernest Everett Just* (held to celebrate the 130th anniversary of the birth of Ernest Everett Just), Naples, 13 May.
- 2009 Santella L, De Natale G, Baffioni C, Cavalli A. *Accademia Europaea 21st Annual Conference on Risks, Environment and Sustainable Development*, Naples, Italy.
- 2004 Santella L, Cattaneo E, Rizzuto R, Carafoli E. EMBO Workshop on *Calcium Signalling and Disease*, Capri, Italy.
- 1997 Santella L, Bachs O, Nicotera P, Carafoli E. First European Conference on *Calcium Signalling in the Cell Nucleus*, Baia Paraelios, Italy. Reports on the conference have appeared in *Cell* (92:17-23, 1998) and *Cell Calcium* (22:313-319, 1997).

## Special Issues Organizer:

Special Issue on *The Cell Biology of Fertilization* (2023). In: *Cells*, Guest Editors: Santella L, Limatola N.

Special Issue on *Waves in Fertilization, Cell Division, and Embryogenesis* (2021). In: *Biosystems*, Guest Editors: Santella L, Gordon R, Chen Z, Tuszynski J.

<https://www.sciencedirect.com/journal/biosystems/special-issue/1022D42HXMT>

Special Issue on *Cytoskeletal Structure and Dynamics in Fertilization and Early Development* (2019). In: *Frontiers in Cell and Developmental Biology*, Guest Editors: Santella L, Chun JT.

<https://www.frontiersin.org/research-topics/23330/cytoskeletal-structure-and-dynamics-in-fertilization-and-early-development>

Special Issue on *Actin cytoskeleton dynamics* (2018). In: *Biochem Biophys Res Commun*. Guest Editors, Santella L, Mabuchi I. 506, 307-422.

Special issue on *Fertilization and early development*. (2013) In: *Biochem Biophys Res Commun*. Guest Editors, Lennarz WJ, Santella L. 450, 1133-1230.

## Publications (h index: 37)

## Book Chapters and Editorials

Santella L, Gordon R, Chen Z, Tuszynski J. (2021) Waves in Fertilization, Cell Division and Embryogenesis. *Bio Systems*, 104560-104560.

Chun JT, Santella L, Miller JJ. (2021) Intracellular Calcium Waves. In: *Encyclopedia of Biological Chemistry*. Lennarz BW., Lane D. (eds.), p. 669-677, New York Elsevier Inc. ISBN: 978-0-12-443710-4.

Santella L. (2019) Polyspermy-preventing mechanisms in sea urchin eggs: New developments for an old problem. *Biochem Biophys Res Commun*. 520, 695-698.

Santella L, Mabuchi I. (2018) Actin cytoskeleton dynamics. *Biochem Biophys Res Commun*. 506, iii-iv.

Chun JT, Vasilev F, Limatola N, Santella L. (2018) Fertilization in Starfish and Sea Urchin: Roles of Actin. In: Kloc M and Kubiak J Z. (Eds.) *Marine Organisms as Model Systems*, Series Title: Results and Problems in Cell Differentiation, Springer Nature, 65, 33-47.

Santella L, Dale B. (2016) Assisted yes, but where do we draw the line? *Reprod Biomed Online*, 4, 476-8.

Santella L, Limatola N, Chun JT. (2014). Actin Cytoskeleton and Fertilization in starfish Eggs. In: *Sexual Reproduction in Animals and Plants*. Sawada H, Inoue N, Iwano M. (Eds.), p. 141-153, ISBN: 978-4-431-54588-0.

Lennarz WJ, Santella L. (2014) Introduction. Fertilization and early development. *Biochem Biophys Res Commun*. 450, 1133-4.

Chun JT, Santella L. (2013). Intracellular Calcium Waves. In: *Encyclopedia of Biological Chemistry*. Lennarz BW., Lane D. (eds.), p. 640-648, New York Elsevier Inc. ISBN: 978-0-12-443710-4.

Santella L, Chun JT. (2013). Calcium signaling by cyclic ADP-ribose and NAADP. In: *Encyclopedia of Biological Chemistry*. Lennarz W J., Lane D. (eds.), p. 331-337, NEW YORK: Elsevier Inc. ISBN: 978-0-12-443710-4.

Santella L, Chun JT. (2007). Calcium and Fertilization. In: *Calcium: a Matter of Life and Death*. New comprehensive biochemistry. G. Bernardi (Ed.) , 41, 425-439, Amsterdam Elsevier Science BV, ISBN: 978-0-444-80303-0, ISSN: 0167-7306, doi: 10.1016/S0167-7306(06)41016-4

Santella, L. (2004) Calcium signaling: Cell Cycle. *Encyclopedia of Biological Chemistry*, Lennarz W J., Lane M D. (Eds.), Vol. 1, 245-249. NEW YORK: Elsevier Inc.

Santella L, Nusco GA, Lim D (2002). Calcium and calcium-linked second messengers are the main actors in the maturation and fertilization of starfish oocytes. In: *Cyclic ADP-Ribose and NAADP: Structure, Metabolism, and Functions*. p. 381-396, Lee H C, (Ed.), Kluwer Academic Publishers, ISBN: 1402072813.

Santella L, Bolsover S. (1999). Calcium in the nucleus. In: *Calcium as a Cellular Regulator*. p. 487-511, Oxford, Oxford University Press, ISBN: 0195094212.

Santella L, Kyojuka K (1998). Ligand-activated Ca<sup>2+</sup> channels in the nuclear envelope of starfish oocytes. In: *New Developments in Marine Biotechnology*. New York, Plenum Press, ISBN: 978-0-306-45907-8.

Santella L. (1990). The cytoskeleton and polyspermy in sea urchin eggs. In: *Mechanism of Fertilization: Plants to Humans*. vol. 45, Berlin Heidelberg, Springer-Verlag, ISBN: 3540517669.

Marthy JH, Santella L, Dale B. (1990). In vitro preparation of the early squid blastoderm. In: Experimental embryology in aquatic plants and animals. NATO ASI Series. Series A: Life Sciences, vol. 195, p. 193-196, New York Plenum Press, ISBN: 0306436787, ISSN: 0258-1213.

Giuditta GA, Hunt T, Perrone Capano C, Santella L, Kaplan B. (1985). Messenger RNA is present in the axoplasm of squid giant axons. In: Role of RNA and DNA in Brain Function: A Molecular Biological Approach. p. 42-56, New York, Springer, ISBN: 0898388147.