
CURRICULUM VITAE

Surname: Rossi

Name: Sergio

Nationality: Italian

Age: 51

Position: Associate Professor

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Visiting Professor at Universidade Federal do Ceará (2019-2021) <http://www.ufc.br>

Visiting Researcher at Universitat Autònoma de Barcelona (2017-Now) <http://icta.uab.cat>

Education

B.Sc Biology-Universitat de Barcelona

Doctorate Ecology & Marine Biology-ICM-CSIC/Universitat de Barcelona

Professional profile

I am a research scientist specializing in **marine natural resources and biological oceanography**. My primary focus is in global change indicators of stress in coastal benthic populations, marine invertebrate distribution, ecology and physiology, benthic-pelagic coupling processes and marine wildlife conservation.

During the last nine years I have been a senior researcher at the Environmental Science and Technology Institute (ICTA-Universitat Autònoma de Barcelona, Spain). Prior to that, I was at the Institut de Ciències del Mar (ICM-Consejo Superior de Investigaciones Científicas, Spain) for more than 13 years as a graduate student (*Universitat de Barcelona*), PhD (*Universitat de Barcelona-CSIC*) and post doc. Actually, I'm an Associate Professor at the DiSTeBA, Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali in the Università del Salento, and Visiting Professor at the Universidade Federal do Ceará.

My present lines of research related with **Marine Biodiversity** and **Global Change** can be synthesized as: 1) Studying the role of **environmental and biological factors** of the water column on the distribution, nutritional condition and survival of benthic organisms to increase the knowledge and tools for coastal management. 2) Studying the **physiology and trophic ecology** of benthic organisms in warm-temperate, tropical, polar and upwelling systems (feeding, reproduction, photobiology, physiology, growth, biochemical balance, energy storage and use, stable isotopes, etc.) in front of global change. 3) **Underwater mapping and distribution** of benthic suspension feeders through remote and deep diving techniques (Remotely Operated Vehicle (ROV)), as a tool for the exploration beyond scuba dive limits (30-40 meters), pioneering the study of the mesophotic zone and also in crossing experimental information with seascape methods to understand energy fluxes in the benthos, carbon sink role of the benthic suspension feeders and the anthropogenic impacts on benthic populations. 4) **Conservation research** on marine biodiversity in marine protected areas and population recovery and resilience, centered mainly on octocorals, but also in other species of economic importance. 5) Marine **ecosystem services and environmental education**, studying aspects of natural ecosystem and resource management, including the vision of the animal forest as carbon sinks and source of biodiversity, but also citizen science using tools or ecological economic & anthropological approaches.

I also developed **third-generation biodiesel** (marine microalgae) applied protocols, using all the above mentioned knowledge and my network to make a realistic approach to this energy alternative.

Lastly, but just as important, my job as a **scientific journalist**, reflected in my collaborations with several journals and magazines, demonstrates my strong commitment with scientific outreach

(also reflected in eco-thrillers and books for kids). *Oceans in decline* (Springer-Nature, Copernicus series) and *The forgotten continent: visions about Antarctica* (Tusquets) are critical essay books that are a strong examples of my efforts to **communicate science** to a wide audience in a rigorous, but easily comprehensible way.

My approach to both **multidisciplinary** and **interdisciplinary** work has been a priority, which is not only reflected in my various projects, but also in the publications listed below.

I have extensive experience in coordinating field work and experimental design, as well as coastal monitoring programs. My leadership is demonstrated not only in the accomplishment of project objectives and publication of manuscripts, but also through the advisement of 15 PhDs and 4 post docs.

Due to my commitment to multidisciplinary science, I have a large **network** (more than 120 senior scientist contacts), with which I have worked with on various projects, congress talks and workshops on differing topics.

I have more than 130 scientific articles (published, in press or submitted). In more than 80% of these publications I'm the **first, second** or **last author**. My H factor is 30 (SCOPUS) and my i10 index is 87 (Google Scholar). The majority of my published papers (>85%) are from the period of 2006-2020. More than 75% of my scientific publications are in the 1st quartile of the specific branch of knowledge.

ORCID: <https://orcid.org/0000-0003-4402-3418>

Professional Experience

<u>Period</u>	<u>Contract or fellowship</u>		<u>Institution</u>
June 1996- Dec 1999	<u>MEC-FPI PhD Fellowship</u> Mar (CSIC)	at	Institut Ciències del
Jan 2000- Oct 2001	<u>PhD contract</u> (UB)	at	Ecology Department
Nov 2001-Feb 2004	<u>Post doc-Research Contract</u> Mar (CSIC)	at	Institut Ciències del
March 2004-Aug 2004	<u>Scientific Manager</u> (Private enterprise)	at	Praesentis, Inc
Sep 2004-March 2005	<u>Scientific Manager</u> (Private enterprise)	at	Argo Maris, inc
April 2005-Nov. 2006	<u>Post doc- Research Contract</u> Ciències del Mar (CSIC)	at	Institut
Dec. 2006-Aug.2007	<u>Post Doc MEC (Spanish) Fellowship</u> Ocean. de Banyuls-sur-Mer, France	at	Obs.
Sep. 2007-April 2008	<u>Post Doc Beatriu de Pinós Contract</u> at Tecnologia Ambientals -UAB		Institut de Ciència i
May 2008-June2013	<u>Ramón & Cajal tenure track contract</u> Ciència i Tecnologia Ambientals -UAB	at	Institut de

July 2013-November 2016 **EU Marie Curie-International Outgoing Fellowship** at Instituto de Ciencias Marinas y Limnología-UNAM / Institut de Ciència i Tecnologia Ambientals –UAB & **Associate Researcher contract p-Sphere (Marie Curie)** at Institut de Ciència i Tecnologia Ambientals – UAB

December 2016-Now **Associate Profesor** at DiSTeBA–Università del Salento, Italy

Participation in Scientific Projects

I participated in 35 Research Projects (in the 6th and 7th, Horizon 2020 framework EU program projects: METRO-MED, EUROGEL, HERMES, CENSOR, MedSeA, Blue Islands), 3 Technological projects and 8 Scientific Outreach Projects and Collaborative Projects.

Projects as PI

2001-2003 Monitoring of red coral *Corallium rubrum* populations in the Catalan Coast. Regional Projects with EU funding (PCC: 30103)

2003-2004 Trophic ecology of *Corallium rubrum* (Anthozoa-Octocorallia).Cooperation Project CSIC/CNR 2003T0013

2008-2009 Trophic biomarker analysis in a high productivity zone, the Humboldt current. CTM2008-02002-E

2010-2013 Larval fitness as a key factor in the population dynamics of gorgonians BENTOLARV. CTM2009-10007 (Subprograma MAR) project

2013-2016 Multiple stressor effects in the photobiology of Caribbean symbiotic octocorals and its repercussion in the population fitness and reproductive output. Marie Curie IOF European Project Contract number 327845 FP7-PEOPLE-2012-IOF

2016-2018 Socio-Economic and Ecologic participative Scenarios for an adaptation to Environmental Global Change: the artisanal fisheries of Costa Brava (NW Mediterranean sea.) case study. DARP-FEMP ARP/353/2016

Selected Projects as partner

2001-2003. Mediterranean gorgonians: risks evaluation of a valuable natural patrimony. MEDGORG, CICYT (REN2000-0633-C03-01/MAR)(PI. Josep-María Gili)

2003-2006. A multidisciplinary approach to the benthic-pelagic coupling processes in the Weddell Sea FILANT (Un proyecto EASIZ) (REN2003-04236) (PI Francesc Pagès)

2003-2007. European gelatinous zooplankton: mechanisms of jellyfish bloom formation and their ecological and socio-economical effects (European Project EUROGEL) (Francesc Pagès, Spanish partner)

2004-2008. CENSOR: Climate variability and El Niño Southern Oscillation: Implications for natural coastal Resources and management. Specific Targeted Research Project (INCO-2002-A2.2) Marzo 2004- Abril 2008. Contrato N° 511071. UE, VI Programa Marco (E. Isla, spanish partner).

2005-2010. HERMES: Hotspot Ecosystem Research on the Margins of European Seas. Contrato N° 511234-2 . Specific Targeted Research Project, Octubre 2004- Septiembre 2008. UE, VI Framework Program (J.M. Gili, spanish partner).

2005-2006. Recruitment, growth and mortality of red coral (*Corallium rubrum* L 1758). CSIC/CNR 2004T0040 PI Josep-María Gili)

2006-2009. Climate change in Antarctica: a benthic-pelagic coupling approach in the Weddell Sea (CLIMANT). POL 2006-06399/CGL, MEC (PI Enrique Isla)

2007-2009. Recruitment induction in the red coral (*Corallium rubrum* L. 1758). Acción Integrada HI2007-0238 (PI Josep-María Gili)

2007-2010. Una aproximación interdisciplinar al manejo y la conservación marina: experiencias divergentes como base de estrategias globales. Proyecto MAPUCHE, Fundación BBVA, BIOCON 07/104 (PI Covadonga Orejas)

2011-2014. Mediterranean Sea Acidification under changing Climate (MedSea, agreement 265103). (PI Patrizia Ziveri)

2011-2014. Effects of Climate change in Polar Shallow benthic Ecosystems (ECLIPSE, Fundación Total-Fina). (PI Veronica Fuentes)

2016-2019. Seasonal variation of waste as effect of tourism BLUE ISLANDS (INTERREG MED. Ref N° 20161127) (I.P. Alkis Stavridis)

2017-2020. Planktonic calcifying organisms in a high-CO2 Mediterranean Sea (CALMED) (CTM2016-79547-R) (I.P. Patrizia Ziveri)

2018-2020 Promozione del BuONo Stato ambientale marino e della pEscA sostenibile lungo la fascia costiera tra Otranto e Capo di Leuca - BON-SEA. (PO FEAMP 2014/2020) (I.P. Massimo Zuccaro)

Awards and accreditations

2008. Accreditation at the Catalan Scientific Quality Agency (AQU) for Associate Professor

2012. Scientific excellence award Ramón y Cajal (Scientific Area 8), I3 accreditation

2017. Abilitazione Fascia II Zoologia (BIO05) & Ecologia (BIO07), Italy

Experience in Foreign Institutions

I made short (from three weeks to seven months) but very profitable stages in different foreign institutions. Each stage can be identified with one (or more) SCI journal paper(s).

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<u>Period</u>	<u>Institution (city, country)</u>	<u>Position</u>
Sep. 1996	Marine Station of Millport (Isle of Cumbrae, GB)	Visiting PhD
Nov. 1996	Laboratoire Arago (Banyuls, FR)	Visiting PhD
Dec. 1997	University of La Reunion (La Reunion, FR)	Visiting PhD
Sep.-Oct. 1998	Bodega Marine Laboratory (Bodega Bay, US)	Visiting PhD
Sep.-Oct. 1999	Bodega Marine Laboratory (Bodega Bay, US)	Visiting PhD

Sep. 2004	Università di Pisa (Pisa, Italy)	Post Doc
May-June. 2005	Università di Pisa (Pisa, Italy)	Post Doc
Jan.-Feb. 2006	Universidad de Antofagasta (Antofagasta, Chile)	Post Doc
Feb. 2007	Universidad Arturo Prat (Iquique, Chile)	Post Doc
Dec. 2006- July 2007	Laboratoire Arago (Banyuls, FR)	Post Doc
Nov. 2012	Universidad Federal do Ceará (Fortaleza, Brasil)	Visiting-Professor
Jul 2013-Jul 2015	Universidad Nacional Autónoma de México (PM Mex)	Visiting Researcher
Nov. 2015	Universidad Federal do Ceará (Fortaleza, Brasil)	Visiting-Professor
Dec. 2015	Università del Salento (Lecce, Italy)	Visiting professor
June & Sept 2016; May 2017	Monaco Scientific Center (Monaco)	Visiting Researcher
June-July 2017	Universidad Federal do Ceará (Fortaleza, Brasil)	Visiting-Professor
October 2018	Universidad Federal do Ceará (Fortaleza, Brasil)	Visiting-Professor
July-August 2019	Universidad Federal do Ceará (Fortaleza, Brasil)	Visiting-Professor

Scientific Cruises and Coastal SCUBA diving campaigns

Oceanographic Cruises

<u>Period</u>	<u>Ship</u>	<u>Cruise</u>	<u>Position</u>
March-May 2000	Polarstern	ANT XVII/3	PhD
Sep.-Oct. 2002	García del Cid	RED CORAL-1	Coordinator
September 2003	Bon Geni	RED CORAL-2	Coordinator
Nov. 2003-Jan. 2004	Polarstern	ANT XXI/2	Invited Sci
Oct.-Nov. 2004	Bon Geni	INTERREG-R	Coordinator
Nov. 2009	Lluerna	RED CORAL-3	Coordinator
Feb.-Apr. 2011	Polarstern	ANT XXVII/3	Benthos Coordinator

SCUBA diving work

<u>Period</u>	<u>Area</u>	<u>Project</u>	<u>Position</u>
June 1996-August 2000	Medes Islands (Spain)	PhD Project	PhD
Nov. 2001-Oct. 2003	Catalan Coast (Spain)	RED CORAL	Coordinator

Jan.-Feb. 2006	Antofagasta (Chile) Scientist	CENSOR	Invited
February 2007	Iquique (Chile)	CENSOR	Coordinator
July 2008 and 2009	Cap de Creus (Spain)	MAPUCHE	Coordinator
May 2010-Oct. 2012	Cap de Creus (Spain)	BENTOLARV	Coordinator
Sep. 2013-May 2015	Puerto Morelos (México)	AN FOR HEALTH	Coordinator

I'm familiar with: respiration and photobiology physiological experiments, feeding experiments (in-situ chambers) and diet seasonal monitoring (gut contents), water column analysis (temperature, salinity, currents, irradiance, chlorophyll, organic matter, C/N, lipid-protein-carbohydrate, zooplankton, etc.), sediment trap analysis (gross sedimentation rates, organic matter, lipids, etc.), activity rhythms (flume experiments and in situ data collection-treatment), cnidarian reproduction (seasonal cycles, gonadal output, reproductive effort, larval biology and biochemistry), photo (linear and photogrammetry) and ring octocoral growth, spectrophotometry, fluorometry, gas chromatography (fatty acids and neutral lipids), IRMS-stable isotopes, Remotely Operated Vehicle (driving, image analysis and statistical approach), benthic cartography (GIS approach), benthos monitoring (fish and echinoderm counting, sessile organism cover and health status, etc.), phytoplankton growth optimization for biodiesel yields in outdoor conditions, citizen science and ecosystem service methodologies (free listing, focus groups, economic valuation, etc.).

Results including publications, teaching, scientific outreach etc.

Scientific Publications

1. **Rossi S**, Hughes RG, Gili JM (1997) Factors affecting the orientation of growth of *Sertularia perpusilla* Stechow (Hydrozoa:Sertulariidae) on leaves of *Posidonia oceanica* (L.)Delille. *In: Proceeding of the 5th International Conference on Coelenterate Biology* (H.Den Hartog, ed.) University of Amsterdam, CL. Pp 409-414
2. **Rossi S**, Gili JM, Hughes RG (2000) The effects of exposure to wave action on the distribution and morphology of the epiphytic hydrozoans *Clava multicornis* and *Dynamena pumila*. *Scientia Marina* 64: 135-140
3. Gili JM, Coma R, Ribes M, **Rossi S** (2000) Mediterranean benthic suspension feeder communities within a world-wide approach. *In: Dynamics of matter transfer and biogeochemical cycles: their modelling in coastal systems of the Mediterranean Sea: Final Scientific Report. Vol. 2*, pp. 189-226
4. Snyder MJ, **Rossi S** (2000) Alterations in stress proteins correlate with space competition in sessile marine invertebrates. *American Zoologist* 40 (6): 1215-1216
5. Gili JM, Alfonso I, Gasol JM, Isla E, López-González P, Orejas C, Pedrós-Alió C, **Rossi S**, Sabater F, Pagès F, Piraino S, Teixidó N, Gerdes D, Arntz WE (2001) Pelagobenthic coupling and the role of benthic suspension feeders. *Ber. Polarforsch. Meeresforsch.* 402: 10-56.
6. **Rossi S**, Snyder MJ (2001) Competition for space among sessile marine invertebrates: changes in HSP70 expression in two Pacific cnidarians. *Biological Bulletin*. 201: 385-393.
7. Ribes M, Coma R, **Rossi S** (2003) Natural feeding of the temperate asymbiotic octocoral gorgonian *Leptogorgia sarmentosa* (Cnidaria: Octocorallia). *Marine Ecology Progress Series* 254: 141-150.
8. **Rossi S**, Grémare A, Gili JM, Amouroux JM, Jordana E, Vétion G (2003) Biochemical characteristics of settling particulate organic matter at two north-western Mediterranean sites: a seasonal comparison. *Estuarine, Coastal and Shelf Science* 58: 423-434.

9. Sabatés A, **Rossi S**, Reyes E (2003) Lipid content in the early life stages of three mesopelagic fishes. *Journal of Fish Biology* 63: 881-891.
10. **Rossi S**, Ribes M, Coma R, Gili JM (2004) Temporal variability in zooplankton prey capture rate of the soft bottom passive suspension feeder *Leptogorgia sarmentosa* (Cnidaria: Octocorallia), a case study. *Marine Biology* 144: 89-99
11. Snyder MJ, **Rossi S** (2004) Stress protein (HSP 70 family) expression in intertidal benthic organisms: the example of *Anthopleura elegantissima* (Cnidaria: Anthozoa). *Scientia Marina* 68 (Suppl.1): 155-162
12. Gerdes D, Gili JM, Isla E, Lavaleye M, Michels J, Pasternak A, Rodríguez y Baena A, **Rossi S**, Vendrell B, Brey T (2005) Multidisciplinary spring bloom study. *Ber. Polarforsch. Meeresforsch.* 503: 36-37.
13. Gili JM, Isla E, Rodríguez E, Rodríguez y Baena A, **Rossi S**, Teixidó N, Vendrell B, Verdes D, Arntz W (2005) Benthic-pelagic coupling under polar spring conditions. *Ber. Polarforsch. Meeresforsch.* 503: 43-60.
14. **Rossi S**, Gili JM (2005) Composition and temporal variation of the near-bottom seston in a Mediterranean coastal area. *Estuarine, Coastal and Shelf Science* 65: 385-395
15. Tsounis G, **Rossi S**, Aranguren M, Gili JM, Arntz W. (2006) Effects of spatial variability and colony size on the reproductive output and gonadal development cycle of the Mediterranean red coral (*Corallium rubrum* L.). *Marine Biology* 148: 513-527
16. **Rossi S**, Snyder MJ, Gili JM (2006) Protein-carbohydrate-lipid levels and HSP70-HSP90 (stress protein) expression over an annual cycle of a benthic suspension feeder: useful tools to detect feeding constraints in a benthic suspension feeder. *Helgoland Marine Research* 60: 7-17
17. Gili JM, **Rossi S**, Pagès F, Orejas C, Teixidó N, López-González PJ, Arntz WE (2006) A new link between the pelagic and benthic systems in the Antarctic shelves. *Marine Ecology Progress Series* 322: 43-49
18. Tsounis G, **Rossi S**, Laudien J, Bramanti L, Fernández N, Gili JM, Arntz W (2006). Diet

and seasonal prey capture rate in the Mediterranean red coral (*Corallium rubrum* L.). *Marine Biology* 149: 313-325

19. **Rossi S**, Gili JM, Coma R, Linares C, Gori A, Vert N (2006) Temporal variation in protein, carbohydrate, and lipid concentrations in *Paramuricea clavata* (Anthozoa, Octocorallia): evidence for summer–autumn feeding constraints. *Marine Biology* 149: 643-651

20. **Rossi S**, Sabatés A, Latasa M, Reyes E (2006) Lipid biomarkers and trophic linkages between phytoplankton, zooplankton and anchovy (*Engraulis encrasicolus*) larvae in the NW Mediterranean. *Journal of Plankton Research* 28: 551-562

21. Gili JM, Palanques P, Isla E, Arntz WE, Clarke A, Orejas C, Teixidó N, **Rossi S**, López-González PJ (2006) A unique assemblage of epibenthic sessile suspension feeders with archaic features in the high-Antarctic. *Deep-sea Research Part II* 53: 1029-1052

22. Isla E, **Rossi S**, Palanques A, Gili JM, Gerdes D, Arntz (2006) Biochemical composition of the sediment from the Eastern Weddell Sea High nutritive value in a high benthic-biomass environment. *Journal of Marine Systems* 60: 255-267

23. Tsounis G, **Rossi S**, Gili JM, Arntz W (2006). Population structure of an exploited benthic cnidarian: the red coral case study. *Marine Biology* 149:1059-1070

24. Bramanti L, **Rossi S**, Tsounis G, Gili JM, Santangelo G (2007). Settlement and early survival of red coral on artificial substrates in different geographic areas: some clues for demography and restoration. *Hydrobiologia* 580: 219-224

25. Santangelo G, Bramanti L, **Rossi S**, Tsounis G, Gili JM, Jannelli M (2007) Recruitment and survival of the red coral *Corallium rubrum* in protected and not protected areas: some clues for conservation. “*La gestione delle attività subacquee nelle AMP*” pp 166-169

26. **Rossi S**, Gili JM. (2007) Short-time-scale variability of near bottom seston composition during spring in a warm temperate sea. *Hydrobiologia* 557: 373-388

27. Gori A, Linares C, **Rossi S**, Coma R, Gili JM (2007) Spatial variability in reproductive cycles of the gorgonians *Paramuricea clavata* and *Eunicella singularis* in the Western

Mediterranean. *Marine Biology* 151: 1571-1584

28. Ribes M, Coma R, **Rossi S**, Micheli M (2007) The cycle of gonadal development of *Eunicella singularis* (Cnidaria: Octocorallia): trends on sexual reproduction in Mediterranean gorgonians. *Invertebrate Biology* 126: 307-317

29. **Rossi S**, Tsounis G (2007) Temporal and spatial variation in protein, carbohydrate, and lipid levels in *Corallium rubrum* (anthozoa, octocorallia). *Marine Biology* 152: 429-439

30. Tsounis G, **Rossi S**, Gili JM, Arntz W (2007) Red coral fishery at the Costa Brava (NW Mediterranean): case study for an over harvested precious coral. *Ecosystems* 10: 975-986

31. **Rossi S**, Youngbluth M, Jacoby C, Pagès F, Garrofé X (2008) Fatty acid composition and trophic links among seston, crustacean zooplankton and the siphonophore *Nanomia cara* in Georges Basin and Oceanographer Canyon (NW Atlantic). *Scientia Marina* 72(2): 403-416

32. **Rossi S**, Tsounis G, Orejas C, Padrón T, Gili JM, Bramanti L, Teixidó N, Gutt J (2008). Survey of deep-dwelling red coral (*Corallium rubrum*) populations at Cap de Creus (NW Mediterranean). *Marine Biology* 154: 533-545

33. Gerdes D, Isla E, Knust R, Mintenbeck K, **Rossi S** (2008) Response of benthic communities to disturbance: the artificial disturbance experiment BENDEX on the eastern Weddell Sea Shelf, Antarctica. *Polar Biology* 31:1469-1480

34. Gili JM, Duró A, García-Valero J, Gasol JM, **Rossi S** (2008) Herbivorism in small carnivores: benthic hydroids as an example. *Journal of the Marine Biological Association UK* 88: 1541-1546

35. Gori A, Olariaga A, Orejas C, **Rossi S**, Quesada S, Valentin A, Bosch I, Turró J, Mestre M, Sanz JL, Teixidó J, Gili JM (2009) Bleeper-EVO: an easy-to-handle ROV for benthic study. *Oceanography* 22:71

36. Fuentes-Grünwald C, Garcés E, **Rossi S**, Camp J (2009) Use of the dinoflagellate *Karlodinium veneficum* as a sustainable source of biodiesel production. *Journal of Industrial Microbiology and Biotechnology* 36:1215-1224

37. Tsounis G, **Rossi S**, Gili JM (2009) Fishery management of the Mediterranean red coral: a call for a paradigm shift. In: Bruckner AW and Roberts GG (ed.). Proceedings of the First International Workshop on Corallium Science, Management and Trade. NOAA Technical Memorandum NMFS-OPR-43 and CRCP-8, Silver Spring, MD. Pp 123-143.
38. Gili JM, Orejas C, Isla E, **Rossi S**, Arntz WE (2009) Seasonality on the high Antarctic benthic shelf communities?. In: Antarctic Climate Change and the Environment (J. Turner, P. Convey, G. di Prisco, P. Mayewski, D. Hodgson, E. Fahrbach, B. Bindschadler, eds.). ACCE Report, Cambridge University Press, Cambridge. Pp 276-278.
39. **Rossi S**, Gili JM (2009) Near bottom phytoplankton and seston: importance in the pelagic-benthic coupling processes. In: Marine Phytoplankton (William T. Kersey and Samuel P. Mungler, eds.). ISBN: 978-1-60741-087-4; Nova Science Publishers Inc, New York, pp 45-85
40. **Rossi S**, Gili JM (2009) Reproductive features and gonadal development cycle of the soft bottom-gravel gorgonian *Leptogorgia sarmentosa* (Esper 1791) in the NW Mediterranean sea. *Invertebrate Reproduction and Development* 53: 175-190
41. Tsounis G, **Rossi S**, Grigg R, Santangelo G, Bramanti L, Gili JM (2010) The exploitation and conservation of precious corals. *Oceanography & Marine Biology: An Annual Review* 48: 161-212
42. **Rossi S**, Fiorillo I (2010) Biochemical features of a *Protoceratium reticulatum* red tide in Chipana Bay (Northern Chile) in summer conditions. *Scientia Marina* 74(4): 633-642
43. Vielmini I, Bramanti L, Tsounis G, **Rossi S**, Gili JM, Cattaneo-Vietti R, Santangelo G (2010) Determination of *Corallium rubrum* population age structure. In: Proceedings of the International Workshop on Red Coral Science, Management, and Trade: Lessons from the Mediterranean. Napoli, September 23 - 26, 2009 E Bussoletti, D Cottingham, A Bruckner, G Roberts, pp 179-182
44. Tsounis G, **Rossi S**, Gili JM (2010) Identifying population decline in *Corallium rubrum* by using historical information. In: Proceedings of the International Workshop on Red Coral Science, Management, and Trade: Lessons from the Mediterranean. Napoli, September 23 - 26, 2009 E Bussoletti, D Cottingham, A Bruckner, G Roberts, pp 33-39

45. Gori A, **Rossi S**, Berganzo-González E, Pretus JL, Dale MRT, Gili JM (2011) Spatial distribution, abundance and relationship with environmental variables of the gorgonians *Eunicella singularis*, *Paramuricea clavata* and *Leptogorgia sarmentosa* (Cape of Creus, Northwestern Mediterranean Sea). *Marine Biology* 158: 143-158
46. Isla E, Gerdes D, **Rossi S**, Fiorillo I, Sañe E, Gili JM, Arntz W. (2011) Biochemical characteristics of surface sediments on the eastern Weddell Sea continental shelf, Antarctica: is there any evidence of seasonal patterns? *Polar Biology* 34:1125-1133
47. Soler-Membrives A, **Rossi S**, Munilla T (2011) Feeding ecology of *Ammothella longipes* (Arthropoda: Pycnogonida) in the Mediterranean Sea: A fatty acid biomarker approach. *Estuarine, Coastal and Shelf Science* 92: 588-597
48. **Rossi S**, Gili JM, Garrofé X (2011) Net negative growth detected in a population of *Leptogorgia sarmentosa*: quantifying the biomass loss in a benthic soft bottom-gravel gorgonian. *Marine Biology* 158:1631-1643
49. Gori A, **Rossi S**, Linares C, Berganzo E, Orejas C, Dale MRT, Gili JM (2011) Size and spatial structure in deep vs shallow populations of the Mediterranean gorgonian *Eunicella singularis* (Cap de Creus, Northwestern Mediterranean Sea). *Marine Biology* 158: 1721-1732
50. Costantini F, **Rossi S**, Pintus E, Cerrano C, Gili JM, Abbiati M (2011) Declining fine-scale genetic variability in *Corallium rubrum* population along a depth gradient. *Coral Reefs* 30: 991-1003
51. Bramanti L, Vielmini I, **Rossi S**, Stolfa S, Santangelo G (2011) Approaching recreational scuba divers to emblematic species conservation: the case of red coral (*Corallium rubrum*). *Journal for Nature Conservation* 19: 312-318
52. Fuentes-Grünwald C, Garcés E, Alacid E, Sampedro N, **Rossi S**, Camp J (2011) Improvement of lipid production in the marine strains *Alexandrium minutum* and *Heterosigma akashiwo* by utilizing abiotic parameters. *Journal of Industrial Microbiology and Biotechnology* 39: 207-216
53. Benedetti A, Bramanti L, Tsounis G, Faimali M, Pavanello G, **Rossi S**, Gili JM, Santangelo G (2011) Applying cathodically polarised substrata to the restoration of a high value coral. *Biofouling* 27: 799-809

54. Sardà R, **Rossi S**, Martí X, Gili JM (2012) Marine Benthic cartography of the NE Catalan Coast (Mediterranean Sea). *Scientia Marina* 76(1): 159-171
55. Santangelo G, Bramanti L, **Rossi S**, Tsounis G, Vielmini I, Lott C, Gili JM (2012) Patterns of variation in recruitment and post-recruitment processes of the Mediterranean precious gorgonian coral *Corallium rubrum*. *Journal of Experimental Marine Biology and Ecology* 411:7-13
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Caribbean octocorals: autotrophic and heterotrophic seasonal trends. *Coral Reefs* 39: 433–449

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population stability of invasive jellyfish (*Cassiopea andromeda*). *Marine Environmental Research* <https://doi.org/10.1016/j.marenvres.2020.10516>

127. Viladrich N, Bramanti L, Tsounis G, Coppari M, López-Carrió C, Pruski A, **Rossi S** (submitted) Energy requirements of coral larvae as a proxy for potential capacity of dispersal and successful settlement. *Marine Biology*

129. **Rossi S**, Rizzo L (submitted) The importance of food pulses in benthic-pelagic coupling and growth processes of passive suspension feeders. *Marine Ecology Progress Series*

130. Paolo Rossi, Massimo Ponti, Sara Righi, Cristina Castagnetti, Roberto Simonini, Francesco Mancini, Panagiotis Agrafiotis, Fabio Bruno, Carlo Cerrano, Paolo Cignoni, Massimiliano Corsini, Pierre Drap, Marco Dubbini, Andrea Gori, Jean-Baptiste Ledoux, Cristina Linares, Yuval Matan, Fabio Menna, Erica Nocerino, Gracias Nuno, Marco Palma, Gaia Pavoni, Alessandro Ridolfi, **Sergio Rossi**, Dimitrios Skarlatos Treibitz Tali, Pulido Mantas Torquato, Eva Turicchia, Alessandro Capra (submitted) Needs and gaps in technologies and methods for the investigation of marine animal forest 3D-structural complexity. *Frontiers in Marine Science*

131. Garcia T, Campos C, Costa GAS, Santos NMO, Belmonte G, **Rossi S**, Soares MO (submitted) Plankton net mesh size influences the resultant diversity and abundance estimates in tropical oligotrophic ecosystems. *Estuarine, Coastal and Shelf Science*

132. Antonio Rodrigues Ximenes Neto; Lidriana de Souza Pinheiro; Paulo Roberto Silva Pessoa; Helena Matthews-Cascon; Francisco José Maciel de Moura; Karina Pinheiro Gurgel Freire; Francisco Assis Aquino Bezerra Filho; David Hélio Miranda de Medeiros; Georg Iriond; Marcelo de Oliveira Soares; **Sergio Rossi**; Jäder Onofre de Moraisa. (submitted) Mixed siliciclastic-carbonate depositional system in a semi-arid coast, equatorial Atlantic. *Estuarine, Coastal and Shelf Science*

133. Soares M, **Rossi S**, Rebouças-Gurgel ALA, Costa-Lucas C, Lopes-Tavares TC, Feitosa CV, Pereira PHC, Papa de Kikuchi RK, Leão ZML, Silva-Cruz IG, Alvarez-Filip L (in preparation) Marginal reefs under pressure (South Atlantic, Brazil). *Ocean and Coastal Management*

134. Marcelo Soares, Eliana Matos, Caroline Lucas, Lucia Rizzo, Louise Allcock, **Sergio Rossi** (submitted) Microplastics in Corals: An emergent threat. *Marine Pollution Bulletin*

I'm the **editor in chief** of the Springer Major Reference Book "[Marine Animal Forests: the ecology of benthic biodiversity hotspots](#)". Rossi S, Bramanti L, Gori A, Orejas C [EDITORS]. Springer, Germany, a 48 chapter book with the Animal Forest concepts and future challenges.

I'm also editor in chief of the Springer Book "[Perspectives on the Marine Animal Forests of the world](#)". Rossi S, Bramanti L [EDITORS]. Springer, Germany (), the last volume of the Marine Animal Forests of the world.

https://www.researchgate.net/profile/Sergio_Rossi

<https://scholar.google.it/citations?user=v3FfS3wAAAAJ&hl=it&oi=sra>

Reviewer of the following journals (from 2003):

Marine Biology - Canadian Journal of Fisheries - Canadian Journal of Zoology - Polar Biology - Scientia Marina - Journal of Plankton Research - Journal of the Marine Biological Association of the United Kingdom - New Zealand Journal of Marine and Freshwater Research - Aquatic Ecology - Journal of Experimental Marine Biology and Ecology - Chemistry and Ecology - Fisheries Research - Biological Conservation - Marine Ecology Progress Series - Marine Environmental Research - Marine Biodiversity Records - Chinese Journal of Oceanology and Limnology - Pakistan Journal of Zoology - Progress in Oceanography - Estuarine, Coastal and Shelf Science - Coral Reefs - Lipids- Journal of Marine Systems - Marine Ecology an evolutionary perspective - Hydrobiologia - Plos ONE- Aquaculture Environment Interactions - Invertebrate Reproduction - Algal Research - International Journal of Biodiversity and Conservation - Diseases of aquatic organisms - Journal of Marine Science and Engineering - Ocean and Coastal Management - Aquatic Conservation: marine and freshwater ecosystems - Microbial Ecology - Egyptian Journal of Aquatic Research - Ecological Indicators - Current Biology - Mercator - Frontiers in Marine Biology - Biology Letters - Frontiers in Zoology - Peer J - The European Zoological Journal - Journal of Microbiological Methods - Society & Natural Resources - Marine Pollution Bulletin - Marine Geology

International and National Scientific Meetings and Workshops

I have participated in 60 scientific meetings and workshops (International Conference on Coelenterate Biology, INTECOL, ASLO, EMBS, SCAR, BIODIVERSITY [UNESCO], ISRS European Meeting, AGU, SIEBM and Marine Protected Areas Congress, Marine Conservation Congress, among others) with more than 50 oral presentations and more than 30 posters. Congress, workshops and short stages have been essential to construct my network (more than 60 senior scientist all over the world, see below).

Invited speaker talks

Simposium Nuove Frontiere per il Corallo Rosso, Alghero (Italia) 2002. "Studio sullo stato delle popolazioni del Corallo Rosso *Corallium rubrum* nella costa Catalana", **Rossi S** & Gili JM

XIV SIEBM, Barcelona (Spain) 2006 "Deep-population survey of *Corallium rubrum* with Remotely

Operated Vehicle methods: distribution and demography of an overexploited species”, **Rossi S**, Tsounis G, Padrón T, Gili, Núria JM, Teixidó N, Orejas C, Gutt J

II Congreso Nacional de Biodiversidad, Santa Susanna (Spain). 2009. Oral presentation “Precious corals: the red coral case study” **Rossi S**, Tsounis G, Gili JM

Ist International Workshop on Corallium: Science, Management and Trade, Hong Kong (China). March 2009. “Red coral fishery management: a call for a paradigm shift” **Rossi S**, Tsounis G, Gili JM

IInd International Workshop on Corallium: Lessons from the Mediterranean, Naples (Italy). September 2009. “The deep transformation of the Mediterranean red forest: the Catalanian coast case study” **Rossi S**, Tsounis G, Gili JM

XXI Rassegna del Mare, Alghero (Italy). May 2010. “The decline of animal forests in the Mediterranean sea: new perspectives for the future” **Rossi S**, Tsounis G, Bramanti L

Universidad Nacional Autónoma de México, Puerto Morelos (México) May 2013. “Ecosystem based management: the red coral case study” **Rossi S**

University of Los Andes, Bogotá (Colombia) January 2015. “The forgotten continent: Antarctica” **Rossi S**

Universidade Federal do Oeste do Pará, Santarém (Brasil) November 2015. “The animal forest as carbon sinks: a neglected ecosystem service” **Rossi S**

Universidade Federal de Santa Catarina, Florianópolis (Brasil) December 2015. Seminario in the Geoscience Department in the framework of the Ocean Journeys “The animal forests ecosystem services” **Rossi S**

52^o European Marine Biology Symposium, 25-29 September 2017. Invited talk “BEYOND SCUBA LIMIT: THE CHALLENGE OF THE COASTAL ANIMAL FORESTS OF THE MESOPHOTIC” Piran (Slovenia) **Rossi S**, Coppari M, Viladrich N, Gori A

Conferencias: La Red de Reservas de la Biosfera Mediterráneas. April 2018. “Hacia una cooperación estratégica con la región del Adriático. Invited talk “La revolución azul, buscando el equilibrio perdido” Venecia, Palazzo Zorzi (Italia)

Euromarine general assembly meeting, Cádiz (Spain) 29-31 January 2019. The marine animal forests of the world: challenges, frontiers and the role of science in its management and conservation (ANFORE)” **Rossi S**, Invited talk

Selected On-line talk

[AIR Center](#): “Marine forests and their role in our oceans” **Rossi S**, Invited talk

Post Doc Advisement

Georgios Tsounis. Project BENTOLARV, January-December 2010. Ministerio de Educación y Ciencia grant (co-advised with Prof. Josep-María Gili)

Lorenzo Bramanti. Project Marie Curie IIF CORAL GARDENS, January 2009-December 2010. Marie-Curie grant (co-advised with Prof. Josep-María Gili)

Nadine Shubert. Project IOF Marie Curie ANIMAL FOREST HEALTH (Mexico), January 2014-June 2015. Sub-Contracted from the Marie Curie project

Marcelo Oliveira. Project “*Tecnologia e Metodologia Inovadoras em Diagnóstico de Ecossistemas Marinhos: subsídios para a gestão ambiental*”, August 2015-July 2016 Contract PROGRAMA CIÊNCIAS SEM FRONTEIRAS, CNPq (Brasil)

PhD Advisement

Georgios Tsounis “Demography, Reproductive Biology and Trophic Ecology of *Corallium rubrum* (L.) at the Costa Brava (NW Mediterranean): Ecological Data for Management”, presented in April 2005

Andrea Gori “The Ecology of deep sublittoral populations of Mediterranean Gorgonians”, presented in September 2011

Claudio Fuentes-Grünewald “Dinoflagellates and Raphidophytes Microalgal Groups as Feedstock for Biodiesel”, presented in September 2011

Luciana de Souza Queiroz “Industrial shrimp aquaculture and mangrove ecosystems: A multidimensional analysis of a socio-environmental conflict in Brazil”, presented in December 2014

Francyne Elias-Piera “Biomarkers for the benthic-pelagic coupling in Antarctica: spatial and temporal comparisons in the Weddell Sea”, presented in December 2014

Núria Viladrich “Larval fitness as a key factor in the population dynamics of gorgonians”, presented in July 2015

Martina Coppari “The importance of benthic suspension feeders in the biogeochemical cycles: active and passive suspension feeders in a coralligenous community”, presented in July 2015

Juanita Zorrilla-Pujana “Education for Natural Protected Areas: the Colombia case study”, presented in January 2016

David Ulises Santos-Ballardo “Micro-algal culture by-products: biogas and secondary metabolites”, presented in February 2016

Miguel Mallo “Mediterranean coastal marine biodiversity under climate change: Local knowledge, perceptions and value”, started in February 2017

Marta Mammone. “Some aspects of the ecology of the invasive species *Cassiopea andromeda* in two contrasted areas: South of Italy and NE Brazil”, started October 2018

Silvia Fraiset “Impact of microplastics in benthic suspension feeding organisms”, Started November 2019

Caroline Costa Lucas “Factors affecting the distribution and trophic ecology of Brazilian anthozoans: a zoanthid and scleractinian case study”, Started February 2018

Jadson Lima “Estrutura trófica e as relações alimentares de macroorganismos bentônicos para fins de cultivos multi-tróficos marinhos” Started January 2020

Carolina Bracho “Novos métodos para restauração marinha através dos SAR (symbiotic artificial reefs)” Started February 2020

Teaching Experience

<u>Place</u>	<u>Course</u>	<u>Period</u>
Universitat de Barcelona	(UB) Benthos Ecology	2002-2007
Universitat Autònoma de Barcelona(UAB)	Ocean Climate Change	2008-2010
	Past, Present and Future	
	Ocean Global Change	2008-2012
	Marine Protected Areas	
	Management	2008-2013
Universidade Federal do Ceará		
(UFC, Brasil) (Visiting Professor)	An overview of Marine	
	Anthropogenic Impacts	2012
	The marine coastal	

systems in front of global change 2015

Management of Coastal Ecosystems in a front of
Global Change: study from a multidisciplinary point of
View 2017

Università del Salento (UniSalento,
Italy) (Visiting Professor & RTDb)

Functional ecology of cnidarians 2015,
2016

Laboratory of Marine Sciences
2017-2018

Applied Zoology (conservation and
management of the Territory) 2017-2018

Practical classes of Zoology (Scienze
Ambientali & Biologia) 2017-2018

Applied Zoology (conservation and
management of the Territory) 2018-2019

Marine Biodiversity and Ecosystem
Functioning (CMBE) 2019-2020

Master degrees supervised: 14

Graduate degrees supervised: 36

Member of 12 PhD thesis tribunals, several master student and graduate student final work tribunals (2007-2016), member of the doctorate program in Environmental Science of the UAB (2008-2012), and Environmental Science master program of the UAB (2008-2011).

Coordinator of the ICTA-UAB scientific seminars (2008-2010).

Scientific Advisor

Expert advisor in the FAO-CITES of 26-30 March 2007 (Rome)

Invited researcher in South Korea by the regional government of the Taean County to assess the impacts of the Hebei Spirit oil spill (December 2007)

Expert advisor in the IPBES 2018, contribution to the Aichi Target 10 (Coastal zones, coral reefs and mangroves)

Project and contract evaluator in ANEP (Spain), CNPq (Brasil), FONCYT (Argentina), FONDECYT (Chile), Binational Science Foundation (US-Israel), National Science Center (Poland), Universidad de Costa Rica (Costa Rica).

Scientific coordinator of the benthos restoration private company Underwater Gardens International (active restoration-education programs in the Mediterranean, Atlantic and Tropical seas)

<https://underwatergardens.com/ug-team/>

Scientific Outreach Work

I have more than 130 International and Spanish Magazine publications as scientific journalist (GEO, National Geographic, American Scientific, Inmersión, Quercus, Muy Interesante magazines; Público, El País, La Vanguardia journals, among others)

I regularly write in two blogs (in Spanish)

Ocean Curiosity and Commitment, Jot Down

<http://www.jotdown.es/category/ciencias/oceancyc/>

and

Smart Blog of the Fundación Aquae

<http://www.fundacionaquae.org/blog>

BOOKS

RELATED WITH POLAR ENVIRONMENTS

Scientific Novels

- **Rossi S**, Polo T (2007) Medusa. Plaza & Janés, España. 302 Pp (Also available in Italian)
- **Rossi S**, Polo T (2010) El cementerio de icebergs. Plaza & Janés, España. 364 pp
- **Rossi S** (2016) Los fiordos de Bjaæn. Amazon Publishing Company. 320 pp
- **Rossi S** (2017) El coral del Diablo. Amazon Publishing Company. 330 pp
- **Rossi S** (2018) Eclipse de mar. Amazon Publishing Company. 221 pp

Scientific Books for Kids

- Polo T, **Rossi S** (2011) El equipo Krakatek y los vagabundos del hielo. Ediciones B. 201 pp
- Polo T, **Rossi S** (2011) El equipo Krakatek y el pez de oro. Ediciones B. 200 pp

Critic Essay

- Canela A, **Rossi S**, Margarit M (2007) Aether, la esencia de los cuatro elementos. Editorial Mediterrania. 221 pp
- **Rossi S** (2011) Planeta azul: un universo en extinción. Editorial Debate. 432 pp
- **Rossi S** (2012) La Antártida: El futuro del continente blanco. Editorial ENDEBATE. 88 pp (<http://endebate.com/>)
- **Rossi S** (2013) Un viaje a la Antártida: un científico en el continente olvidado. Editorial Tusquets, sello Metatemas. 268 pp
- **Rossi S** (2014) 30 años de la colección Metatemas (several authors). Opúsculo Sergio Rossi "Desafíos del Cambio Global". Editor: Jorge Wasenberg. Editorial Tusquets, sello Metatemas
- **Rossi S** (2019) Oceans in decline. Copernicus, Springer-Nature, Switzerland. ISBN 978-3-030-02513-7

Selected invited scientific outreach talks

I have given numerous talks about the Oceans, Antarctica and the Animal Forest.

Presentation of the Documental “Deep Blue” in the Centre de Biodiversitat de Andorra, 22-23 May 2006

Conference “Transformation of the marine systems: taking the initiative” in the Talk Cycle Climate Change, future perspectives, Semana Europea de la Ciencia in the UAB, 13 November 2007

Round table in the “I Encuentro de Científicos y Tecnólogos en Navarra” 28 October 2008

Conference “Something is moving on the ice: climate change effects on the poles” in the Club Faro de Vigo, 19 May 2010

Invited guest in the HAY Festival

(<https://www.hayfestival.com/portal/index.aspx?skinid=1&localesetting=en-GB>)

in Xalapa (México, 2-5 October 2014) and Medellín & Cartagena de Indias (Colombia, 28 January-1 February 2015) talking about Antarctica “A trip to Antarctica: scientists in the forgotten continent”

Conference at the Centre de Cultura Contemporània de Barcelona (CCCB) “The wondering of exploration”, 10 December 2014

Conference at the UNESCO meeting (La Rete delle Riserve della Biosfera Mediterranea. Verso una cooperazione strategica con la regione Adriatica.), with the talk “*La rivoluzione azzurra: recuperando l'equilibrio smarrito*” 19 April, Venice (Italy)