

## Dr. Vincent ROSSI – CNRS scientist

38 years old - French nationality.

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# BIOLOGICAL & PHYSICAL OCEANOGRAPHER

## EDUCATIONAL BACKGROUND & WORK EXPERIENCE

**From January 2017 to present:** CNRS-CR1 scientist at the [Mediterranean Institute of Oceanography](#) (MIO – CNRS/IRD/AMU), Marseille, France.

**January 2016 / December 2016:** Juan de la Cierva - Incorporacion **research fellow** at the **Institute for Cross-Disciplinary Physics and Complex Systems** (IFISC - CSIC/UIB), Palma de Mallorca, Spain.

**April 2013 / December 2015:** **Post-doctoral research associate** at **Institute for Cross-Disciplinary Physics and Complex Systems** (CSIC/UIB), Palma de Mallorca, Spain.

**Since January 2013:** **Affiliated visiting fellow** at the [Climate Change Research Centre](#) (CCRC – UNSW), Sydney, Australia.

**September 2010 / December 2012:** **Post-Doc fellow** at the **University of New South Wales** (UNSW), department of **Fluid Dynamics, Oceanic and Atmospheric Sciences**, Sydney, Australia.

**November 2006 / June 2010:** **Ph.D. in Biological and Physical Oceanography** entitled “[Influence of mesoscale physical processes on planktonic ecosystems in the regional ocean: application to the Eastern Boundary Upwelling Systems](#)”, **Laboratoire d’Etudes en Géophysique et Océanographie Spatiales** (LEGOS – CNRS/IRD/CNES/UPS), Toulouse, France.

Awarded of a **EUR-OCEANS mobility grant** (1 week in 2007) and a **ATUPS grant** (8 months in 2009) to support several research stays at **IFISC (CSIC-UIB)**, Palma de Mallorca, Spain.

**May 2007 & May 2008:** **Teaching Assistant** in “Landscape Ecology” at Ecole Nationale Supérieure d’Agronomie de Toulouse (ENSAT, eq. **University of Biological and Life Sciences**), Toulouse, France.

**2002/2006:** **Environmental and Agricultural Engineer sp. in Fisheries Sciences**, eq. to a **Master’s degree in Fisheries Sciences**, AGROCAMPUS Rennes (ex. “ENSAR”), France.

**2000/2002:** Two years of “Classes Préparatoires” at the high school “Lycée Masséna”, Nice, France.

**June 2000:** Baccalauréat with **Honours** (eq. English A-Levels, sp. in Maths, Physics/Chemistry, Biology), La Seyne sur Mer, France.

## TRAINING , INTERNSHIPS

**April to September 2006:** 6 months' internship at **Laboratoire d'Etudes en Géophysique et Océanographie Spatiale LEGOS** (CNRS/IRD/CNES/UPS), Toulouse, France. Interactions between plankton dynamics and oceanic turbulence: application to the Benguela upwelling area.

**August 2006:** Participation and POSTER presented at the **EUR-OCEANS/NATO** international **Summer School** entitled "Climate Change Impacts on Marine Ecosystems", Ankara, Turkey.

**August 2005:** 1-month internship on board an artisanal fishing vessel, Bandol, France.

**January to July 2005:** 6 months' internship in a **Plant biotechnology company**, "Bretagne Biotechnologie Végétale", St-Pol-de-Léon, France. **Research and Development** of a screening test for *Mycosphaerellae Brassicicola*, pathogen of the French cabbage.

**July to December 2004:** 6 months' internship as a research assistant for the **University of Southern Queensland (USQ)** and the **Department of Primary Industries and Fisheries (DPI&F)**, Queensland, Australia.

**2002/2004:** Home **tutor** (scientific disciplines) with the company "Compl'étude".

## OTHER SKILLS

### Language:

- **French** mother tongue.
- **English:** expert level (writing and speaking), **T.O.E.I.C.** achieved in 2002 with 875/990 equivalent to an "**Advanced Working Proficiency**" level.
- **Spanish:** advanced (writing and speaking).
- **German:** Basics.

### Information Technology:

**Windows OS, Unix/Linux OS, Microsoft Office, Matlab, S-Plus, Primer, R, Surfer, ArcView,** notions of **Ferret** and **Ocean Data View**, notions of **HYCOM** (HYbrid Coordinate Ocean Model).

Programming language: **Matlab (expert user), Fortran 77/90, C++, HTML, notions of Python.**

### Oceanographic Survey techniques:

CTD-Rosette-Niskin bottles deployment and analysis, ADCP deployment and analysis, biogeochemical (Winkler titration, CDOM analysis, Suspended Matter analysis, Chlorophyll-a sampling & filtration for HPLC...) and biological measurements (deployment of zooplankton net, biomass estimation), XBT, ARGO & surface drifters' deployments, ability to run and analyse zooplankton samples on the [ZooScan](#) (Gorsky et al., LOV/CNRS/UPMC, Villefranche/Mer).

## MENTORING & SUPERVISING

**Supervisor** of Chaimaa Rwawi for her M2 internship (co-advisor: M. Tedetti; Mar-Aug 2021) at MIO, Marseille, France.

**Supervisor** of Axel Eugène for his M2 internship (co-advisor: J-C. Poggiale; Feb-July 2021) at MIO, Marseille, France.

**Supervisor** of Floriane Sudre for her PhD thesis (co-advisors: B. Dewitte and V. Garçon March 2021-2024) at MIO, Marseille, France.

**Supervisor** of Marine Di Stefano (AGROCAMPUS) for her M2 internship at MIO (March-August 2020) and for her PhD thesis at MIO (co-advisor: D. Nérini; Nov. 2020 to Nov. 2023), Marseille, France.

**Co-supervisor** of Ana Wasielesky ([WACOMA](#)) for her M2 internship (Nov. 2020 to July 2021) at UniBo, Bologna, Italy and at MIO, Marseille, France.

**Supervisor** of Maxime Odic (ENSTA Paris) for his M2 internship at MIO (May-November 2020).

**Local supervisor** of Veronica Morales-Marquez (UIB – IMEDEA, Mallorca, Spain) during 2 research stay (June-July 2019 and Nov. 2020 to Jan. 2021) at MIO, Marseille, France.

**Supervisor** of Madiop Lo (AMU) for his 1-y contract (March 2019 – February 2020) at MIO as a computer science engineer.

**Co-advisor** of Dr. Joao Bettencourt, post-doctoral fellow at LEGOS (TEASAO project), over 2017-2019.

**Co-advisor** of Dr. Enrico Ser-Giacomi, post-doctoral fellow at LOCEAN, over 2018-2019.

**Supervisor** of T rence Legrand (Aix Marseille Univ.) for his M2 internship at MIO (January-July 2018) and for his PhD thesis at MIO (co-advisor: A. Chenuil; Oct. 2018 to Feb. 2022), Marseille, France.

**Supervisor** of Dr. Ehsan Sadighrad (IMS, Turkey) for a 2-month research stay (June-July 2016) at IFISC, in the framework of the HYDROGENCONNECT project.

**Co-supervisor** of Pedro Monroy for his PhD thesis (2013-2018), IFISC (UIB-CSIC), Palma de Mallorca, Spain.

**Supervisor** of M lodie Dubois (February to August 2014) for her **master’s thesis**, AGROCAMPUS Rennes, France.

**Co-supervisor** of Enrico Ser-Giacomi for his PhD thesis (2013-2015), IFISC (UIB-CSIC), Palma de Mallorca, Spain.

**Supervisor** of Eunice Edwige Gandote Sonagnon (April to September 2014) for her **master’s thesis**, CIPMA – Chaire UNESCO, Cotonou, B nin.

**Supervisor** of Jos  Sanchez Pelegr n (June to August 2014) for his bachelor’s thesis, IFISC, Spain.

**Co-Supervisor** of Adam Davies (2011) and Tom Sullivan (2012) for their **master’s thesis**, University of Western Australia, Australia.

**Co-supervisor** of Laura Antoine and Charlotte Grange (2008/2009) for their **bachelor’s thesis** (laboratory work and report writing), CERAM, Sophia-Antipolis, France.

## OCEANOGRAPHIC SURVEYS

**Organisation and participation** in 2 coastal oceanographic research surveys (“Ocean-Reef interaction project”) in the Solitary Islands Marine Park (northern New South Wales, Australia) during **12 days, late-2010** and **12 days mid-2011**, to collect physical and biological data.

**Participation to the research survey** “Assessing oceanographic delivery of nutrients to Ningaloo Reef”, R/V “Southern Surveyor” CSIRO / University of Western Australia, **22 days offshore Ningaloo Reef, Western Australia, in May 2010** to gather physical and biological data.

**Organisation and participation** to the **research cruise MOUTON 2007** onboard the R/V “Le Pourquoi Pas?” **30 days in August-September 2007**. Prior to the cruise: design and organisation of the biogeochemical measurements. During the cruise: real-time strategic organisation and co-leaders of the wet-laboratory analysis.

**Participation to the research cruise** “Linkage between Climate Change and Fisheries in Hervey Bay”, R/V “Tom Marshall”, **7 days in September 2004** to gather physical and biological data.

## BOOK CHAPTERS

2) Reglero P., D. Alvarez-Berastegui, F.J. Alemany, **V. Rossi**, A.P. Torres, R. Balbin and M. Hidalgo (2018). Operational oceanography and the management of marine living resources: The Mediterranean Sea as a case study. In "*New Frontiers in Operational Oceanography*", E. Chassignet, A. Pascual, J. Tintoré, and J. Verron, Eds., GODAE Ocean View, Ch. 26, 713-728, [doi:10.17125/gov2018.ch26](https://doi.org/10.17125/gov2018.ch26)

1) **Rossi, V.**, E. Ser-Giacomi, M. Dubois, P. Monroy, M. Hidalgo, E. Hernandez-Garcia, C. Lopez, (2016). [Lagrangian Flow Networks: a new framework to study the multi-scale connectivity and the structural complexity of marine populations](#), Proceedings and [Executive Summary](#) (Ed. F. Briand) of the CIESM International Research Workshop n.48 entitled "Marine Connectivity - Migratory routes, stepping stones, larval dispersal", Soller (Mallorca), Spain.

## PEER - REVIEWED PUBLICATIONS

**Google Scholar** metrics (Dec. 1, 2021): **H-INDEX = 22**; i10-index = 28; total: 1459 citations.

41) Aurelle, D., Thomas, S., [...], **V. Rossi** et al. (2022). Biodiversity, climate change and adaptation in the Mediterranean, **Ecosphere**, *in press*.

40) Mugnai F., F. Costantini, [...], **V. Rossi** et al. (2021). Are well-studied marine biodiversity hotspots still blackspots for animal barcoding?, **Global Ecology and Conservation**, 32, e0190, [doi:10.1016/j.gecco.2021.e01909](https://doi.org/10.1016/j.gecco.2021.e01909) ([arXiv](#)).

39) Sen Gupta A., Stellema A., Pontes G., A.S. Taschetto, A. Verges and **V. Rossi** (2021). Future Changes to the upper ocean Western Boundary Currents across two generations of climate models, **Nature Scientific Reports**, 11 (1), 1-12, [doi:10.1038/s41598-021-88934-w](https://doi.org/10.1038/s41598-021-88934-w).

38) Morales-Marquez V., I. Hernandez-Carrasco, G. Simarro, **V. Rossi** and A. Orfila (2021). Regionalizing the impacts of wind and wave-induced currents on surface ocean dynamics: a long-term variability analysis in the Mediterranean Sea, **Journal of Geophysical Research: Oceans**, 126, e2020JC017104, [doi:10.1029/2020JC017104](https://doi.org/10.1029/2020JC017104).

37) Ser-Giacomi, E., A. Baudena, **V. Rossi**, M. Follows, S. Clayton, R. Vasile, C. Lopez, E. Hernandez-Garcia (2021). From network theory to dynamical systems and back: Lagrangian Betweenness reveals bottlenecks in geophysical flows, **Nature Communications**, 12(1), 1-14, [doi:10.1038/s41467-021-25155-9](https://doi.org/10.1038/s41467-021-25155-9) ([arXiv](#)).

36) Ser-Giacomi E., T. Legrand, I. Hernandez-Carrasco I. and **V. Rossi** (2021). Explicit and implicit network connectivity: analytical formulation and application to transport processes, **Physical Review E**, 103, 042309, [doi:10.1103/PhysRevE.103.042309](https://doi.org/10.1103/PhysRevE.103.042309).

- 35) **Rossi, V.**, M. Lo, T. Legrand, E. Ser-Giacomi, A. de Jode, L. Thierry De Ville D'avray, I. Pairaud, V. Faure, M. Fraysse, C. Pinazo and A. Chenuil (2021). Small-scale connectivity of coralligenous habitats: insights from a modelling approach within a semi-opened Mediterranean bay, **Life & Environment**, 70 (3-4), 161-174 ([HAL](#)).
- 34) Ser-Giacomi, E., Sánchez, G. J., Soto-Navarro, J., Thomsen, S., Mignot, J., Sevault, F. and **V. Rossi** (2020). Impact of climate change on surface stirring and transport in the Mediterranean Sea. **Geophysical Research Letters**, 47, e2020GL089941, [doi:10.1029/2020GL089941](https://doi.org/10.1029/2020GL089941) ([arXiv](#)).
- 33) Macdonald A.M., S. Yoshida, S.M. Pike, K.O. Buesseler, I.I. Rypina, S.R. Jayne, **V. Rossi**, J. Kenyon, J.A. Drysdale (2020) A Fukushima tracer perspective on four years of North Pacific mode water evolution, **Deep-Sea Research Part I**, 103379, [doi:10.1016/j.dsr.2020.103379](https://doi.org/10.1016/j.dsr.2020.103379).
- 32) Bettencourt J.H., **Rossi V.**, Renault L., Haynes P., Morel Y. and Garçon V. (2020) Effects of upwelling duration and phytoplankton growth regime on dissolved-oxygen levels in an idealized Iberian Peninsula upwelling system, **Nonlin. Processes Geophys.**, 27, 277–294, [doi:10.5194/npg-27-277-2020](https://doi.org/10.5194/npg-27-277-2020)
- 31) Azis-Ismail, M.F., Ribbe, J., Karstensen, J. and **V. Rossi** (2019). Remote sensing of upwelling off Australia's north-east coast, *under review in Ocean Science Discuss.*, [doi:10.5194/os-2018-142](https://doi.org/10.5194/os-2018-142).
- 30) Legrand, T., A. Di Franco, E. Ser-Giacomi, A. Caló, **V. Rossi** (2019). A multidisciplinary analytical framework to delineate spawning areas and quantify larval dispersal in coastal fish, **Marine Environmental Research**, 8, 8613, [doi:10.1016/j.marenvres.2019.104761](https://doi.org/10.1016/j.marenvres.2019.104761).
- 29) Hidalgo, M., **V. Rossi** (*shared 1<sup>st</sup> authorship*) et al. (2019). Accounting for ocean connectivity and hydroclimate in fish recruitment fluctuations within transboundary metapopulations. **Ecological Applications**, 29(5), e01913, [doi:10.1002/eap.1913](https://doi.org/10.1002/eap.1913).
- 28) Hernandez-Carrasco, I., A. Orfila, **V. Rossi**, V. Garçon (2018). Effect of small-scale transport processes on phytoplankton distribution in coastal seas, **Nature Scientific Reports**, vol. 8, 8613, [doi:10.1038/s41598-018-26857-9](https://doi.org/10.1038/s41598-018-26857-9).
- 27) Ayata, S.-D., J.-O. Irisson, L. Berline, J.-C. Dutay, N. Mayot, A.-E. Nieblas, F. D'Ortenzio, J. Palmiéri, G. Reygondeau, **V. Rossi** and C. Guieu (2017). Regionalisation of the Mediterranean basin, a MERMEX synthesis, **Progress in Oceanography**, vol. 63, p. 7-20, [doi:10.1016/j.pocean.2017.09.016](https://doi.org/10.1016/j.pocean.2017.09.016).
- 26) Smith, J.N., **V. Rossi**, K.O. Buesseler, J. Cullen, J. Cornett, R. Nelson, A.M. Macdonald, M. Robert and J. Kellogg (2017). Recent Transport History of Fukushima Radioactivity in the Northeast Pacific Ocean, **Environmental Science & Technology**, 51 (18), 10494-10502, [doi:10.1021/acs.est.7b02712](https://doi.org/10.1021/acs.est.7b02712).
- 25) Bettencourt, J., **V. Rossi**, E. Hernandez-Garcia, M. Marta-Almeida, C. Lopez (2017). Characterization of the structure and cross-shore transport properties of a coastal upwelling filament using three-dimensional finite-size Lyapunov exponents, **Journal of Geophysical Research-Oceans**, 122, 7433-7448, [doi:10.1002/2017JC012700](https://doi.org/10.1002/2017JC012700).
- 24) Monroy, P., E. Hernández-García, **V. Rossi** and C. López (2017). Modeling the dynamical sinking of biogenic particles in oceanic flow, **Nonlinear Processes in Geophysics**, 24, 293-305, [doi:10.5194/npg-24-293-2017](https://doi.org/10.5194/npg-24-293-2017).
- 23) Monroy, P., **V. Rossi**, E. Ser-Giacomi, C. Lopez, E. Hernandez-Garcia (2017). Sensitivity and robustness of larval connectivity diagnostics obtained from Lagrangian Flow Networks, **ICES Journal of Marine Science**, 74 (6), 1763-1779, [doi:10.1093/icesjms/fsw235](https://doi.org/10.1093/icesjms/fsw235).



- 22) Dubois, M., **V. Rossi**, Ser-Giacomi, E., S. Arnaud-Haond, C. López and E. Hernández-García (2016). Linking oceanography, larval connectivity and population dynamics for the management of marine ecosystems, **Global Ecology & Biogeography**, 25, 503–515, [doi:10.1111/geb.12431](https://doi.org/10.1111/geb.12431).
- 21) Froyland, G., C. Horenkamp, **V. Rossi** and E. van Sebille (2015). Studying an Agulhas ring's long-term pathway and decay with finite-time coherent sets, **Chaos**, 25, 083119, [doi:10.1063/1.4927830](https://doi.org/10.1063/1.4927830).
- 20) Ser-Giacomi, E., **V. Rossi**, C. López and E. Hernández-García (2015). Flow networks: A characterization of geophysical fluid transport, **Chaos**, 25(3), 036404, [doi:10.1063/1.4908231](https://doi.org/10.1063/1.4908231) ([arXiv:1409.4171](https://arxiv.org/abs/1409.4171)).
- 19) Capet, A., E. Mason, **V. Rossi**, C. Troupin, Y. Faugère, I. Pujol and A. Pascual (2014). Implications of Refined Altimetry on the Estimates of Mesoscale Activity and Eddy-Driven Offshore Transport in the Eastern Boundary Upwelling Systems, 41 (21), 7602–7610, **Geophysical Research Letters**, [doi:10.1002/2014GL061770](https://doi.org/10.1002/2014GL061770).
- 18) Nieblas, A.-E., K. Drushka, G. Reygondeau, **V. Rossi**, H. Demarcq, L. Dubroca and S. Bonhommeau (2014). Defining Mediterranean and Black Sea biogeochemical subprovinces and synthetic ocean indicators using mesoscale oceanographic features, **PLoS ONE** 9(10), e111251, [doi:10.1371/journal.pone.0111251](https://doi.org/10.1371/journal.pone.0111251).
- 17) **Rossi, V.**, E. Van Sebille, A. Sen Gupta, V. Garçon and M.H. England (2014). *Extensive Corrigendum* to "Multi-decadal projections of the surface and interior pathways of the Fukushima Cesium-137 radioactive plume", **Deep Sea-Research I**, 93, 162-164, [doi:10.1016/j.dsr.2014.08.007](https://doi.org/10.1016/j.dsr.2014.08.007).
- 16) **Rossi, V.**, E. Ser-Giacomi, C. López and E. Hernández-García (2014). Hydrodynamic provinces and oceanic connectivity from a transport network help designing marine reserves, **Geophysical Research Letters**, 41 (8), 2883-2891, [doi:10.1002/2014GL059540](https://doi.org/10.1002/2014GL059540).
- 15) **Rossi, V.**, A. Schaeffer, J. Wood, G. Galibert, B. Morris, J. Sudre, M. Roughan and A.M. Waite, 2014. Seasonality of sporadic physical processes driving temperature and nutrient high-frequency variability in the coastal ocean off southeast Australia, **Journal of Geophysical Research – Oceans**, 119, 1-16, [doi:10.1002/2013JC009284](https://doi.org/10.1002/2013JC009284).
- 14) Armbrecht, L., M. Roughan, **V. Rossi**, A. Schaeffer, P.L. Davies, A.M. Waite and L.K. Armand (2014). Phytoplankton composition under contrasting oceanographic conditions : downwelling and upwelling off Eastern Australia, **Continental Shelf Research**, 75, 54-67, [doi:10.1016/j.csr.2013.11.024](https://doi.org/10.1016/j.csr.2013.11.024).
- 13) Hernandez-Carrasco, I., **V. Rossi**, H. Hernandez-Garcia, V. Garçon and C. Lopez (2014). The reduction of planktonic biomass induced by mesoscale stirring: a modelling study in the Benguela upwelling, **Deep Sea-Research I**, 83, 65-80, [doi:10.1016/j.dsr.2013.09.003](https://doi.org/10.1016/j.dsr.2013.09.003).
- 12) Waite, A. M., **V. Rossi**, M. Roughan, B. Tilbrook, J. Akl, P.A. Thompson, M. Feng, A.S.J. Wyatt and E.J. Raes (2013). Formation and maintenance of high-nitrate, low pH layers in the Eastern Indian Ocean and the role of nitrogen fixation, **Biogeosciences**, 10, 5691-5702, [doi:10.5194/bg-10-5691-2013](https://doi.org/10.5194/bg-10-5691-2013).
- 11) **Rossi, V.**, E. Van Sebille, A. Sen Gupta, V. Garçon and M.H. England (2013). Multi-decadal projections of the surface and interior pathways of the Fukushima Cesium-137 radioactive plume, **Deep Sea-Research I**, 80, 37-46, [doi:10.1016/j.dsr.2013.05.015](https://doi.org/10.1016/j.dsr.2013.05.015).
- 10) **Rossi, V.**, M. Feng, C. Pattiaratchi, M. Roughan and A.M. Waite (2013). On the factors influencing the development of sporadic upwelling in the Leeuwin Current system, **Journal of Geophysical Research – Oceans**, 118, 1-14, [doi:10.1002/jgrc.20242](https://doi.org/10.1002/jgrc.20242).

- 9) **Rossi, V.**, M. Feng, C. Pattiaratchi, M. Roughan and A.M. Waite (2013). Linking synoptic forcing and local mesoscale processes with biological dynamics off Ningaloo Reef, **Journal of Geophysical Research – Oceans**, 118, 1211–1225, [doi:10.1002/jgrc.20110](https://doi.org/10.1002/jgrc.20110).
- 8) **Rossi, V.**, Garçon V., J. Tassel, J.B. Romagnan, L. Stemmann, F. Jourdin, P. Morin and Y. Morel (2013). Cross-shelf gradient in the Iberian Peninsula Upwelling System: impact of a mesoscale filament, **Continental Shelf Research**, 59, 97-114, [doi:10.1016/j.csr.2013.04.008](https://doi.org/10.1016/j.csr.2013.04.008).
- 7) Froyland, G., C. Horenkamp, **V. Rossi**, N. Santitissadeekorn and A. Sen Gupta (2012). Three-dimensional characterization and tracking of an Agulhas Ring, **Ocean Modelling**, 52-53, 69-75, [doi:10.1016/j.ocemod.2012.05.001](https://doi.org/10.1016/j.ocemod.2012.05.001).
- 6) Raimund, S., B. Quack, Y. Bozec, M. Vernet, **V. Rossi**, V. Garçon, Y. Morel, and P. Morin. (2010). Sources of short-lived bromocarbons in the Iberian Upwelling System. **Biogeosciences**, 8, 1551-1564, [doi:10.5194/bg-8-1551-2011](https://doi.org/10.5194/bg-8-1551-2011).
- 5) Meunier T., **V. Rossi**, Y. Morel and X., Carton (2010). Influence of a bottom topography on an upwelling current: generation of long trapped filaments, **Ocean Modelling**, 35 (4), 277-303, [doi:10.1016/j.ocemod.2010.08.004](https://doi.org/10.1016/j.ocemod.2010.08.004).
- 4) **Rossi, V.**, Y. Morel and V. Garçon (2010). Effect of the wind on the shelf dynamics: formation of a secondary upwelling along the continental margin, **Ocean Modelling**, 31 (3-4), 51-79, [doi:10.1016/j.ocemod.2009.10.002](https://doi.org/10.1016/j.ocemod.2009.10.002).
- 3) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, Y. Morel and V. Garçon (2009). Horizontal stirring and biological activity in the surface ocean of the four Eastern Boundary Upwelling Systems, **Nonlinear Processes in Geophysics**, 16, 557-568, [doi:10.5194/npg-16-557-2009](https://doi.org/10.5194/npg-16-557-2009).
- 2) Tewkai E., **V. Rossi**, J. Sudre, H. Weimerskirch, C. Lopez, E. Hernández-García, F. Marsac and V. Garçon (2009). Top marine predators track Lagrangian coherent structures, **Proceedings of the National Academy of Sciences of the USA**, 106, 8245-8250, [doi:10.1073/pnas.0811034106](https://doi.org/10.1073/pnas.0811034106).
- 1) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García and V. Garçon (2008). Comparative study of mixing and biological activity of the Benguela and Canary upwelling systems, **Geophysical Research Letters**, 35, L11602, [doi:10.1029/2008GL033610](https://doi.org/10.1029/2008GL033610).

## MAJOR COMMUNICATIONS & PROCEEDINGS

(Presenting author)

- 72) M. Di Stefano, T. Legrand, A. Di Franco, D. Nerini, **V. Rossi**, “Assessing spatio-temporal variability of spawning in a Mediterranean coastal fish combining observations and modelling”, ORAL presented at the ASLO Aquatic Science Meeting, June 2021, Palma de Mallorca, Spain.
- 71) T. Legrand, A. Chenuil, E. Ser-Giacomi, M. Lo, B. Porro, S. Arnaud-Haond, N. Bierne, **V. Rossi**, “Meta-analysis reveals hidden multi-generational dispersal pathways predicting gene flows across marine taxa”, ORAL presented at the ASLO Aquatic Science Meeting, June 2021, Palma de Mallorca, Spain.
- 70) T. Legrand, A. Chenuil, E. Ser-Giacomi, M. Lo, B. Porro, S. Arnaud-Haond, N. Bierne, **V. Rossi**, “Multi-generational connectivity vs genetic structures”, ORAL presented at the 5th World Conference on Marine Biodiversity, December 2020, Auckland, New Zealand.
- 69) I. Hernandez-Carrasco, A. Orfila, **V. Rossi**, E. Alou-Font, V. Morales-Márquez, V. Garçon, “[Lagrangian flow properties along filament-like structures and its impact on the distribution and](#)”

- [composition of phytoplankton](#)”, ORAL presented at the Ocean Science Meeting, February 2020, San Diego, USA.
- 68) T. Legrand, A. Di Franco, E. Ser-Giacomi, A. Caló and **V. Rossi**, “[A multidisciplinary analytical framework to delineate spawning areas and quantify larval dispersal in coastal fish](#)”, ORAL presented at the international GECOMARS workshop, February 2020, Marseille, France.
- 67) M. Lo, T. Legrand, **V. Rossi**, “[Lagrangian Flow Network: a powerful and flexible modelling framework to study the multi-scale connectivity of marine populations](#)”, POSTER presented at the international GECOMARS workshop, February 2020, Marseille, France.
- 66) **V. Rossi** and M. Hidalgo “[Evaluating broad-scale connectivity to improve the management of Hake fishery in the north-western Mediterranean Sea](#)”, ORAL presented at the international GECOMARS workshop, February 2020, Marseille, France.
- 65) V. Morales-Marquez, I. Hernandez-Carrasco, **V. Rossi** and A. Orfila, “Wind and wave effects on surface currents in the Western Mediterranean”, ORAL presented at the 8<sup>th</sup> MonGOOS Meeting & Workshop, December 2019, Trieste, Italy.
- 64) **V. Rossi** et al. “Filamentary and frontal structures in oceanic plankton shaped by (sub)mesoscale physical processes”, INVITED ORAL presented at the TEASAO final workshop, October 2019, Saint Ferréol, France.
- 63) T. Legrand, [...], **V. Rossi**, “[Integrating Lagrangian modeling with otolith analyses to quantify larval dispersal and locate spawning areas](#)” ORAL presented at the 7<sup>th</sup> international LAPCOD meeting, June 2019, Venice, Italy.
- 62) M. Lo and **V. Rossi**, “[Deep learning to improve remote-sensed ocean data for fisheries research](#)”, ORAL presented (*remotely*) at the ICES-WGMLEARN workshop on machine learning in marine science, May 2019, Ostend, Belgium.
- 61) **V. Rossi** et al. “[Physical and biogeochemical controls on dissolved oxygen in coastal upwelling systems: insights from a low complexity coupled model](#)” POSTER presented at the EGU general assembly, April 2019, Vienna, Austria.
- 60) **V. Rossi** et al. “[Ocean connectivity, structure of marine populations and ecosystem management](#)”, INVITED ORAL at the National Oceanographic Center Liverpool, February 2019, Liverpool, UK.
- 59) **V. Rossi** et al. “Basin-scale connectivity among SEAMoBB surveyed sites: preliminary model results”, ORAL presented at the 2<sup>nd</sup> SEAMoBB general assembly, February 2019, Ravenna, Italy.
- 58) **V. Rossi et al.** “[Modelling early-life stages connectivity to better understand marine population structure and inform fisheries management](#)”, INVITED ORAL presented at the FAO/GFCM [Fish Forum 2018](#), December 2018, Rome, Italy.
- 56-57) Legrand, T., [...] **V. Rossi**, “Integrating Lagrangian modelling with otolith analyses to investigate larval dispersal and fish natal origins: a case-study for *Diplodus sargus* and *Diplodus vulgaris* in the Adriatic Sea”, POSTER & **V. Rossi** et al., “[Modelling early-life stages connectivity to better understand marine population structure and inform fisheries management](#)” ORAL presented at the 4<sup>th</sup> International Marine Connectivity (iMarCo) Conference, October 2018, Crete, Greece.
- 55) J. Bettencourt, **V. Rossi** et al. “[Physical and biogeochemical controls on dissolved oxygen in coastal upwelling systems](#)” ORAL and “[Characterization of the structure and cross-shore transport](#)”



- [properties of a coastal upwelling filament using three-dimensional finite-size Lyapunov exponents](#)” POSTER presented at the EGU general assembly, April 2018, Vienna, Austria.
- 54) **Rossi, V.** et al. “[Modelling the connectivity of early-life stages for exploited species: a new approach for the delimitation of fishery assessment units in the Mediterranean Sea](#)”, ORAL presented at the Ocean Science Meeting 2018, February 2018, Portland, USA.
- 53) Hernandez-Carrasco, **Rossi** et al. “[Effect of small scale transport processes on phytoplankton distribution in coastal seas](#)”, POSTER presented at the Ocean Science Meeting 2018, February 2018, Portland, USA.
- 52) **Rossi, V.** et al. “Connectivity and the structural complexity of marine populations: implications for protection and management”, ORAL presented at the Fine-MED workshop, July 2017, Marseille, France.
- 51) **Rossi, V.** et al. “[Lagrangian Flow Network part 2: ocean connectivity and the structural complexity of marine populations](#)”. INVITED ORAL presented at the MEGALODOM workshop, June 2017, Villefranche/Mer, France.
- 50) **Rossi, V.** et al. “[Lagrangian Flow Network: Theory and Applications](#)”, INVITED ORAL presented at the international conference “Cross-Roads in Complex Systems” held at IFISC, June 2017, Palma de Mallorca, Spain.
- 49) Bettencourt J., **V. Rossi** et al. “[Impact of submesoscale motions in dissolved O2 in an upwelling system](#)”. POSTER presented at the EGU general assembly, April 2017, Vienna, Austria.
- 48) **Rossi, V.** et al. “[Modeling the dynamical sinking of biogenic particles in eastern-boundary upwelling systems](#)”. POSTER presented at the EGU general assembly, April 2017, Vienna, Austria.
- 47) **Monroy, Rossi** et al. “[Connectivity diagnostics in the Mediterranean obtained from Lagrangian Flow Networks; global patterns, sensitivity and robustness](#)”. ORAL presented at the EGU general assembly, April 2017, Vienna, Austria.
- 46) **Rossi, V.** “Retention, dispersion & transport of tracers in geophysical fluids: a Lagrangian perspective”, ORAL presented at the 2<sup>nd</sup> general TEASAO workshop at LEGOS, March 2017, Toulouse, France.
- 45) **Rossi, V.** and A. Chenuil, “Introducing the HYDROGENCONNECT project: Dispersal and Connectivity”. ORAL presented at the 2<sup>nd</sup> international HYDROGENCONNECT workshop (hosted by the Institute of Marine Sciences IMS/METU), Oct. 2016, Erdemli, Turkey.
- 44) **Rossi, V.** et al. Studying connectivity and the structural complexity of marine populations with Lagrangian Flow Networks. ORAL seminar presented at the Mediterranean Institute of Oceanography (MIO - CNRS/IRD/AMU), Sept. 2016, Marseille, France.
- 43) **Rossi V.**, E. Ser-Giacomi, P. Monroy, M. Dubois, C. Lopez, E. Hernandez-García. “Lagrangian Flow Network: theory and applications.” ORAL presented at the 3<sup>rd</sup> international Workshop on Nonlinear Processes in Oceanic and Atmospheric Flows (NLOA), July 2016, Madrid, Spain.
- 42) **Rossi V.** et al. “Dispersal and Connectivity in Evolutionary Biology”. INVITED ORAL presented at the XVI Jornada de Biologia Evolutiva, organized by Societat Catalana de Biologia, June 2016, Barcelona, Spain.
- 41) **Rossi, V.**, E Ser-Giacomi, M Dubois, P Monroy, M Hidalgo, E Hernandez-García, C López. “Lagrangian Flow Networks: a new framework to study the multi-scale connectivity and the structural complexity of marine populations”, INVITED ORAL and published [PROCEEDINGS](#) and

[Executive Summary](#) at the CIESM international Research Workshop n. 48 "Marine Connectivity - Migratory routes, stepping stones, larval dispersal", March 2016, Mallorca, Spain.

40) **Rossi V.**, M Dubois; E Ser-Giacomi; P Monroy; C Lopez; E Hernandez-Garcia. "[Lagrangian Flow Network: a new tool to evaluate connectivity and understand the structural complexity of marine populations](#)". ORAL presented at the Ocean Science Meeting (AGU/ASLO), New Orleans, USA.

39) **Rossi, V.**, Monroy P., Lopez C., Hernandez-Garcia E., "Modeling the dynamical sinking of biogenic particles in the ocean." POSTER presented at the LEFE-CYBER workshop sur la modélisation, Nov. 2015, Marseille, France.

38) **Rossi, V.**, Dubois, Ser-Giacomi, Monroy, Hernandez-García, López, "[Lagrangian Flow Network: a new tool to evaluate connectivity and understand the structural complexity of marine populations](#)", ORAL presented at the ICES annual science conference, September 2015, Copenhagen, Denmark.

37) **Rossi, V.**, Hidalgo, Dubois, Ser-Giacomi, Monroy, Arnaud-Haond, Lopez, Hernandez-Garcia, "Studying connectivity processes and the structural complexity of marine populations using Lagrangian Flow Network: a case study of the European hake in the western Mediterranean Sea", INVITED ORAL presented at the 5<sup>th</sup> annual meeting of MarCo, September 2015, Montpellier, France.

36) Rossi, V., M. Dubois, E. Ser-Giacomi, S. Arnaud-Haond, C. Lopez and E. Hernandez-Garcia. "Linking basin-scale connectivity, oceanography and population dynamics for the management of marine ecosystems in the Mediterranean Sea". ORAL presented at the 1<sup>st</sup> international HYDROGENCONNET workshop (hosted by IFISC), June 2015, Palma de Mallorca, Spain.

35) **Rossi, V.**, Dubois, Ser-Giacomi, Arnaud-Haond, Lopez, Hernandez-Garcia, "[Linking basin-scale connectivity, oceanography and population dynamics for the management of marine ecosystems in the Mediterranean sea](#)", ORALS presented at the LINC final meeting and the EGU general assembly, April 2015, Vienna, Austria.

34) **Rossi, V.**, Dubois, Ser-Giacomi, Arnaud-Haond, Lopez, Hernandez-Garcia, "Linking basin-scale connectivity, oceanography and population dynamics for the design of marine reserves in the Mediterranean Sea", INVITED ORAL presented at AMA meeting, January 2015, Toulouse, France.

33) **Rossi, V.**, Dubois, Ser-Giacomi, Arnaud-Haond, Lopez, Hernandez-Garcia, "Linking basin-scale connectivity, oceanography and population dynamics for the design of marine reserves in the Mediterranean Sea", solicited ORAL seminar presented at IOE, October 2014, Palma de Mallorca, Spain.

32) **Rossi, V.** and collaborators, "On the retention, dispersion and transport of tracers by ocean currents: a Lagrangian perspective", ORAL seminar presented at LEGOS, October 2014, Toulouse, France.

31) **Rossi, V.** and collaborators, "On the retention, dispersion and transport of tracers by ocean currents: a Lagrangian perspective", ORAL seminar presented at IMEDEA, June 2014, Esporles, Mallorca, Spain.

30) López, C., **V. Rossi**, E. Ser-Giacomi, and E. Hernandez-Garcia, "[Oceanic provinces and basin-scale connectivity derived from a hydrodynamical network help designing marine reserves in the Mediterranean Sea](#)", ORAL presented at the EGU general assembly, April 2014, Vienna, Austria.

- 29) **Rossi, V.**, Ser-Giacomi, López and Hernández-García, “[Hydrodynamic provinces and oceanic connectivity from a transport network help designing marine reserves](#)”. ORAL presented at the international Ocean Science Meeting, Feb. 2014, Honolulu, USA.
- 28) Hernandez-Carrasco, I., **V. Rossi**, E. Hernandez-Garcia, V. Garçon and C. Lopez, “The reduction of planktonic biomass induced by mesoscale stirring: a modelling study in the Benguela upwelling”. POSTER presented at the EUR-OCEANS Hot Topics Conference, Nov. 2013, Gran Canaria, Spain.
- 27) **Rossi, V.**, Froyland, G., C. Horenkamp, N. Santitissadeekorn, A. Sen Gupta, E. Van Sebille, V. Garçon and M.H. England. “Lagrangian studies of the ocean circulation”. ORAL seminar presented at IFISC, Jul. 2013, Palma de Mallorca, Spain.
- 26) **Rossi, V.**, F. Ming, A. Schaeffer, C. Pattiaratchi, G. Galibert, J. Wood, J. Sudre, M. Roughan and A.M. Waite, “Sporadic physical processes driving temperature and nutrient variability in the coastal ocean: a comparative study over the East and West Australian continental shelves” ORAL seminar presented at the CCRC/UNSW, Dec. 2012, Sydney Australia.
- 25) **Rossi, V.**, F. Ming, A. Schaeffer, C. Pattiaratchi, G. Galibert, J. Wood, J. Sudre, M. Roughan and A.M. Waite, “Sporadic physical processes driving temperature and nutrient variability in the coastal ocean: a comparative study over the East and West Australian continental shelves” ORAL seminar presented at the Oceans Institute/UWA, Dec. 2012, Perth, Australia.
- 24) **Rossi, V.**, A. Schaeffer, F. Ming, C. Pattiaratchi, G. Galibert, J. Wood, J. Sudre, M. Roughan and A.M. Waite, “Sporadic physical processes driving temperature and nutrient variability in the coastal ocean: a comparative study over the East and West Australian continental shelves” ORAL seminar presented at CSIRO/UTAS, Nov. 2012, Hobart, Australia.
- 23) **Rossi, V.**, A. Schaeffer, F. Ming, C. Pattiaratchi, G. Galibert, J. Wood, J. Sudre, M. Roughan and A.M. Waite, “Sporadic physical processes driving temperature and nutrient variability in the coastal ocean: a comparative study over the East and West Australian continental shelves” ORAL seminar presented at Griffith University, Nov. 2012, Queensland, Australia.
- 22) **Rossi, V.**, F. Ming, C. Pattiaratchi, M. Roughan and A.M. Waite, “[Upwelling over North-Western Australia: complex interaction between the surface and sub-surface circulation in the Leeuwin current](#)”, ORAL presented at the international Ocean Sciences Meeting, Feb. 2012, Salt lake City, USA.
- 21) **Rossi, V.**, A. Schaeffer, J. Wood, G. Galibert, J. Sudre, M. Roughan and A.M. Waite, “Spatio-temporal variability of sporadic upwelling events over the east Australian continental margin.”, ORAL presented at the Australian Meteorological and Oceanography Society conference, Jan. 2012, Sydney, Australia.
- 20) **Rossi, V.**, M. Roughan, L. Beckley and A.M. Waite, “A bio-physical characterization of water masses off Ningaloo reef in May 2010”, ORAL presented at the Australian Marine Sciences Association Conference, Jul. 2011, Fremantle, WA, Australia.
- 19) Hernandez-Carrasco, I., **V. Rossi**, H. Hernandez-Garcia, V. Garçon and C. Lopez, 2011, “[A coupled modelling study of plankton and hydrodynamics at mesoscale in the Benguela upwelling system](#)”, POSTER presented at the Advances in Marine Ecosystem Modelling Research Symposium (AMEMR III), Jun. 2011, Plymouth, UK.
- 18) **Rossi, V.**, V. Garçon and Y. Morel, “Influence of mesoscale physical processes on planktonic ecosystems in the regional ocean: application to the Eastern Boundary Upwelling Systems”, ORAL seminar presented at the Climate Change Research Centre (CCRC), Oct. 2010, Sydney, Australia.

- 17) Hernandez-Garcia, E., J.H. Bettencourt, V. Garçon, I. Hernandez-Carrasco, C. Lopez, **V. Rossi**, J. Sudre, E. Tew-Kai, “Biological Impact of Ocean Transport: A Finite-Size Lyapunov Characterization”, ORAL and published [PROCEEDINGS](#) (Ed. D. Baleanu, Z.B. Guvenc and O. Defterli ; article #54) for the 3<sup>rd</sup> Conference on Nonlinear Science and Complexity, Jul. 2010, Ankara, Turkey.
- 16) **Rossi, V.**, C. López, E. Tewkai, E. Hernández-García, J. Sudre and V. Garçon, “Influence of ocean circulation and horizontal stirring on marine ecosystem dynamics, from phytoplankton to top predators”, solicited ORAL seminar presented at the Ocean Institute, University of Western Australia (UWA), May 2010, Perth, Australia.
- 15) **Rossi, V.**, Garçon V., J. Tassel, J.B. Romagnan, L. Stemmann, F. Jourdin, P. Morin and Y. Morel, “[Biological - physical interactions at mesoscale from \*in-situ\* data: a field survey of the Iberian Peninsula Upwelling System](#)”, POSTER presented at the Ocean Sciences Meeting, Feb. 2010, Portland, USA.
- 14) **Rossi, V.**, C. López, E. Tewkai, E. Hernández-García, J. Sudre and V. Garçon, “Influence of ocean circulation and horizontal stirring on marine ecosystem dynamics, from phytoplankton to top predators”, ORAL seminar presented at the Laboratoire d’Océanographie de Villefranche/Mer (LOV – CNRS/UPMC), Nov. 2009, Villefranche/Mer, France.
- 13) Meunier, T., **V. Rossi**, Y., Morel and X., Carton, “Filaments and vortex formation from topographic effects on an upwelling current”, POSTER presented at the 2<sup>nd</sup> international conference on High-Reynolds number vortex interactions, Sept. 2009, Brest, France.
- 12) **Rossi, V.**, Y. Morel, and V. Garçon, “Formation of a secondary upwelling along the continental margin”, ORAL presented at the Layered Ocean Model Workshop, Jun. 2009, Miami, USA.
- 11) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “Influence of ocean circulation and horizontal stirring on marine ecosystem dynamics, from phytoplankton to top predators”, ORAL seminar presented at the IMEDEA (Mediterranean Institute for Advanced Studies, CSIC/UIB), May 2009, Mallorca, Spain.
- 10) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “[Marine ecosystem dynamics and horizontal mixing](#)”, INVITED ORAL presented at the EGU general assembly, Apr. 2009, Vienna, Austria.
- 9) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “Marine ecosystem dynamics and horizontal stirring and mixing”, ORAL presented at the Workshop “Non Linear Processes in Atmospheric and Oceanic flows”, Jul. 2008, Castro Urdiales, Spain.
- 8) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “Spatio-temporal variations of stirring in the surface ocean of the four eastern boundaries upwelling systems”, solicited ORAL presented at the Eastern boundary Upwelling Ecosystem symposium, Jun. 2008, Las Palmas, Spain.
- 7) **Rossi, V.**, Y. Morel, J. Tassel, P. Morin and V. Garçon, “MOUTON 2007: a field survey of the Iberian Peninsula Upwelling System”, POSTER presented at the Eastern boundary Upwelling Ecosystem symposium, Jun. 2008, Las Palmas, Spain.
- 6) **Rossi, V.**, Y. Morel, and V. Garçon, “Formation of a secondary upwelling front along the shelf break in simplified numerical models and *in-situ* data”, POSTER presented at the Eastern boundary Upwelling Ecosystem symposium, Jun. 2008, Las Palmas, Spain.
- 5) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “Comparative study of the mixing and biological activity of the Benguela and Canary upwelling”, POSTER presented at the 4<sup>th</sup> IGBP congress, May 2008, Cape Town, South Africa.



- 4) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “[Comparative study of the mixing and biological activity of the Benguela and Canary upwelling](#)”, Geophys. Res. Abstr., 10, 0418. POSTER presented at EGU general assembly, Apr. 2008, Vienna, Austria.
- 3) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “Spatio-temporal variations of stirring in the surface ocean of the Benguela, Canary and Iberian peninsula upwelling systems”, ORAL presented at the EUR-OCEANS PI’s annual meeting, Apr. 2007, Athens, Greece.
- 2) **Rossi, V.**, C. López, J. Sudre, E. Hernández-García, and V. Garçon, “[Comparative study of the mixing and biological activity of the Benguela and Canary upwelling](#)”, Geophys. Res. Abstr., 9, 07799. POSTER presented at the European Geosciences Union general assembly, Apr. 2007, Vienna, Austria.
- 1) **Garçon V., V. Rossi**, C. Pottier, J. Sudre, G. Larnicol, A. Paulmier, D. Ruiz Pino, A. Turiel, C. Lopez, and L. Farias, “Eastern boundary upwelling systems as natural SOLAS laboratories”, ORAL presented at SOLAS open science conference, Mar. 2007, Xiamen, China.

## RESEARCH PROJECTS

**2020 / 2023: BIOPHYCOAST** (Developing Downstream applications and services on BIO-PHYsical characterization of the seascape for COASTal management), funded by EU-Copernicus Framework Partnership Agreement (FPA); PIs **V. Rossi & C. Pinazo**; budget: **106 k€**.

**2020 / 2024: international “Ocean Front CHANGE” project** funded by the *Belmont Forum* (call “[Innovating solutions to accelerate sustainable use of oceans and minimize effects from global change](#)”); our consortium is composed of natural and social scientists from France, Germany, USA, Mozambique and Kenya. Total budget is **1188 k€**, lead PI: L. Hannah; French budget is 250 k€; PI: P. Penven (125 k€), co-PI: V. Rossi (**125 k€**).

**2020: Foresight Workshop TUTTI ([From species connectivity To fUncTional connectIvity](#))**, funded by EuroMarine (7.5 k€); PIs: L. Lopez-Lopez, M. Hidalgo, M. Coll, **V. Rossi**.

**2018 / 2021: SEAMoBB** (Solutions for sEmi-Automated Monitoring of Benthic Biodiversity; <https://seamobb.osupytheas.fr>), funded by ERA-Net Mar-Tera, France, PI: A. Chenuil (total budget: 589 k€), Budget WP2 **40 k€**; co-PI **V. Rossi**.

**2018: Make Our Planet Great Again Short Visit** grant and project entitled “Impact of the Loop Current variability on connectivity and dispersal across the Gulf of Mexico and the Caribbean”; visit at MIO from 15<sup>th</sup> September to 15<sup>th</sup> November 2018; **10 k€**, PI: **C. Harrison and V. Rossi**.

**2016 / 2019: TEASAO** (Turbulence Effects on Active Species in Atmosphere and Ocean; <http://www.legos.obs-mip.fr/projets/axes-transverses-processus/teasao>), funded by Toulouse IDEX program “Attractivity Chairs 2014”, France, PI: Y. Morel & P. Haynes.

**2016 / 2017: Juan de la Cierva – Incorporacion fellowship**, ranked 2<sup>nd</sup> nationally in area “Earth Science”, Spain (renounced when entering CNRS in January 2017), **64 k€**, PI: **V. Rossi**.

**2016 / 2018: LAOP** (Estudios lagrangianos de procesos oceánicos: patrones de conectividad, barreras al transporte y poblaciones marinas), funded by MICINN, Spain, PI: C. Lopez.

**2015 / 2016: HYDROGENCONNECT** (HYDROdynamic networks, population GENetics and oceanic CONNECTivity for the design of Marine Protected Areas), France, **17.7 k€**, PI: **V. Rossi**.

**2013 / 2015: ESCOLA** (EStructuras COherentes LAgrangianas en la dinámica del océano), funded by MICINN and FEDER (CTM2012-39025-C02-01), Spain, PI: C. Lopez.

**2011 / 2015: LINC** (Learning about Interacting Networks in Climate), Marie-Curie initial training network 289447, funded by the European Union (EC-FP7), EU, local PI: E. Hernandez-Garcia.



**2012 / 2015:** GDR MarCo (Marine French Connection), funded by IFREMER and CNRS, France, PI: S. Arnaud-Haond and N. Bierne.

**2010 / 2012:** Discovery Project “Ocean-reef interactions as drivers of continental shelf productivity in a changing climate”, funded by the Australian Research Council (DP1093510), Australia, PI: A. Waite.

**2005 / 2013:** EUR-OCEANS (EUROpean research on OCean Ecosystems under Anthropogenic and Natural forcingS) Network of Excellence and Consortium, funded by the European Union (EC-FP6), EU, local PI: V. Garçon.

**2007 / 2008:** OCEANTECH (Herramientas avanzadas para el estudio de la dinámica oceánica y la gestión medio-ambiental) funded by CSIC (PIF06-059), Spain, PI: C. Lopez.

**2006 / 2009:** MOUTON (Modélisation Océanique d'Un Théâtre d'Opération Navale), funded by SHOM-DGA (PEA012401), France, PI: Y. Morel.

**2004 / 2007:** “Linkage between Climate Change and Fisheries in Hervey Bay, Australia”, funded by USQ and DPI&F, Australia, PI: J. Ribbe.

## MEDIA & PUBLIC OUTREACH

- 1 interview and associated newspaper [article](#) derived from Sen-Gupta et al. (2021) and published by *La Marseillaise*.
- 3 communications derived from Ser-Giacomi et al. (2021) (Nat. Comm.) published by the [CNRS-INSU](#), the [UIB](#), the [IFISC](#) and [C-Biomes](#).
- [Most-read paper](#): Bettencourt et al. 2020 (NPG).
- 1 interview (march 2020) with *Deutsche Welle* for an online media article entitled “[Fukushima: How the ocean became a dumping ground for radioactive waste](#)”.
- 2 communications derived from *Hidalgo, Rossi et al. 2019* (EA) published in the [CNRS-INSU](#) website and in the AMU [newsletter](#) (issue 73, p. 25).
- Several communications derived from *Hernandez-Carrasco [...] Rossi et al. 2018* (SR), including 1 online article entitled « [Observer comment les structures à fine échelle de la circulation océanique contrôlent la distribution phytoplanctonique et sa variabilité dans l’océan côtier](#) » published on the CNRS-INSU website and 2 digital media articles published in [EcoDiario](#) and [Dicyt](#).
- Participation in 1 outreach online communication in 2017 entitled “[How radioactive is our ocean?](#)”, derived from *Rossi et al. 2013* (DSR) and *Smith et al. 2017* (EST).
- Press-releases for *Dubois, Rossi et al. 2016* (GEB) in [english](#) and [spanish](#). Media communications are compiled [here](#).
- [Announcement](#) of the June 2015 HYDROGENCONNECT workshop ([English](#), [Spanish](#) and [Catalan](#)). Communications appeared in [Ara Balears](#) and [Baleopolis](#).
- Organization of a beach clean-up day on Mallorca’s north shores and presentation of an outreach talk entitled “*Oceanografía y Contaminación Marina*” (June 2015).
- Press-releases derived from *Capet et al. 2014* (GRL) available on [SOCIB](#) and [IFISC](#) websites.
- Communications derived from the paper *Rossi et al. 2014* (GRL): press releases in [English](#) and [Spanish](#); media communications published in [El Mundo](#) (Balearic edition) and [Lukor](#) website; also relayed by [MedPan](#).

- Several communications derived from the paper *Rossi et al.* 2013 (DSR): press releases in [English](#) and [Spanish](#); many online media communications such as on the [Huffington Post](#), [RTVE](#) and more in this [PDF](#) or [online](#).
- 1 communication derived from the paper *Rossi et al.* 2013 (JGR) appearing in EOS Research Highlights (Balcerak, E. Understanding sporadic upwelling off the western Australian coast, *Eos Trans. AGU*, 94 (31), 276, [doi:10.1002/2013EO310009](https://doi.org/10.1002/2013EO310009)).
- 1 communication derived from the paper *Rossi et al.* 2009 (NPG) published in the [EGGS newsletter](#) n°29, p. 14.
- Several communications derived from the paper *Tew-Kai, Rossi et al.* 2009 (PNAS) published in many Spanish [media](#) and the [INSU-CNRS](#) website.
- 2 communications derived from the paper *Rossi et al.* 2008 (GRL) published on the [INSU-CNRS](#) website and in the [UPS scientific magazine](#), n°14, p. 17.

## COMMUNITY SERVICES

**Invited MEMBER** (examiner) of the jury of M. Dubois's PhD entitled "*Effets combinés de la pêche et des perturbations naturelles sur la dynamique des écosystèmes coralliens*", EPHE-CRIOBE, may 2019, Perpignan, France.

**Active REFEREE** (~80 papers reviewed so far) for: *Nature Scientific Reports*, *Journal of Geophysical Research – Oceans*, *Deep-Sea Research I*, *Biogeosciences*, *Ocean Dynamics*, *Non-Linear Processes in Geophysics*, *Journal of Marine Systems*, *Ocean Modelling*, *Continental Shelf Research*, *Estuarine Coastal & Shelf Science*, *Oceanography*, *Plos 1*, *Limnology & Oceanography*, *Progress in Oceanography*...

**Solicited REVIEWER** of **research proposals** for the European Commission (HORIZON 2020), the Agence Nationale de la Recherche (ANR, France), the National Science Foundation (USA), the CONICYT/FONDECYT (Chile) and the EUROFLEETS+ program.

**INVITED EXPERT** for the 2016 Research Workshop "*Marine Connectivity - Migratory routes, stepping stones, larval dispersal*" organized by the **Mediterranean Science Commission** (CIESM).

**MEMBER** of the European Geosciences Union (**EGU**), American Geophysical Union (**AGU**), Association for the Sciences of Limnology and Oceanography (**ASLO**), Association Française d'Halieutique (**AFH**).

**CONVENER** of session OS3.1/BG9.69 entitled "*Ocean biogeochemistry and ecosystems: recent advances and novel approaches to synthesis and prediction*" held at **EGU general assembly 2017**, Vienna, Austria. **Co-convener** of session OS3.1/BG3.3 at **EGU general assembly 2018**. **Convener** of session OS3.1/ BG3.6 at **EGU general assembly 2019**.

**CO-CONVENER** of session EP21A entitled "*Basin- to Global-Scale Ocean Transport, Connectivity, and Dispersal: Interdisciplinary Connections*" held at the Ocean Science Meeting 2018, Portland, USA.

**ELECTED REPRESENTATIVE** of the **early-career Scientists** (PhD & Post-Doctoral fellows) at the LEGOS Laboratory Council (2006/2009).

## MISCELLANEOUS

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Practicing **OUTDOOR SPORTS**, especially marine sports (swimming, surfing, sailing, recreational fishing...).

Listening to **MUSIC**, practicing **saxophone**, summer jobs as receptionist at the « Académie Internationale d'été de Musique de Nice » July 2000 and 2001.