

Curriculum Vitae

RUT PEDROSA PÀMIES, Ph.D.

Research Scientist
The Ecosystems Center
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Research Interests

- Marine biogeochemistry.
- Cycling of elements in the environment, especially the biogeochemistry of carbon.
- Factors regulating the downward particle flux of material and organic matter and its reprocessing in the water column, using elemental, isotopic and organic molecular tracers.
- Impact of mesoscale variability and extreme weather events on the oceanic carbon cycle and deep-sea ecosystems.
- Transfer and fate of organic pollutants and nano/microplastics in the environment.
- Role of microbes in regulating carbon fluxes in the deep ocean.

Education

- 2016** **Ph.D. in Marine Biogeochemistry.** University of Barcelona (Catalonia, Spain). Thesis: “Composition, origin and transport of organic matter in continental margins and basins of the Mediterranean Sea”. Graded Excellent *Cum Laude*. Supervisors: Dr. A. Sanchez-Vidal and Dr. A. Calafat.
- 2011** **MSc in Marine Sciences: Oceanography and Marine Management.** University of Barcelona (Catalonia, Spain). Thesis: “Organic matter and mineral interactions in sediments of the Catalan margin: the influence of extreme events”. Graded Excellent with honors. Supervisors: Dr. A. Sanchez-Vidal and Dr. A. Calafat.
- 2010** **BS in Environmental Sciences.** University of Barcelona (Catalonia, Spain). Thesis: “Study of variations in the sedimentological parameters in the Blanes Canyon and adjacent slope”. Graded Excellent with honors (13 distinctions). Supervisors: Dr. A. Sanchez-Vidal and Dr. A. Calafat.

Academic Appointments

- 2018-present** **Research Scientist.** The Ecosystems Center, Marine Biological laboratory.
- 2016 - 2018** **Postdoctoral Scientist.** The Ecosystems Center, Marine Biological laboratory. Project: The Oceanic Flux Program (OFP) Time-Series. Supervisor: Dr. Maureen H. Conte.
- 2015 - 2016** **Assistant Researcher.** Research Group on Marine Geoscience, Department of Earth and Ocean Dynamics, Faculty of Earth Science, University of Barcelona (UB).
- 2014** **Visiting Researcher.** Hellenic Centre for Marine Research, Institute of Oceanography (HCMR) (Anavyssos, Attiki, Greece). Supervisors: Alexandra Gogou and Constantine Parinos. Topic: Geochemical analysis of biomarkers in sediment trap samples and discussion of the results (6 weeks).

- 2012** **Visiting Researcher.** HCMR (Anavyssos, Attiki, Greece). Supervisors: Dr. Nikolaos Lampadariou and Dr. Alexandra Gogou. Topic: Geochemical analysis of sea surface samples and manuscript writing (3 months).
- 2011 - 2015** **Pre-doctoral candidate.** Research Group on Marine Geoscience, Department of Earth and Ocean Dynamics, Faculty of Geology, UB. Supervisors: Dr. A. Sanchez-Vidal and Dr. A. Calafat.
- 2010 - 2011** **Research Assistant.** Research Group on Marine Geoscience, Department of Earth and Ocean Dynamics, Faculty of Geology, UB. EU Project: Hotspot Ecosystem Research and Man's Impact on European Seas (HERMIONE, EC contract 226354). Supervisors: Dr. A. Sanchez-Vidal and Dr. Miquel Calafat.
- 2010** **Research Assistant.** Research Group on Marine Geoscience, Department of Earth and Ocean Dynamics, Faculty of Geology, UB. Ministry of Education, Culture and Sports of the Spanish Government. Supervisors: Dr. Miquel Canals and Dr. A. Sanchez-Vidal.
- 2009** **Research Assistant.** Barcelona Science Park (PCB) and Research Group on Marine Geoscience, Department of Earth and Ocean Dynamics, Faculty of Geology, UB. Supervisors: Dr. Miquel Canals and Dr. A. Sanchez-Vidal.
- 2009** **Research Assistant.** Meteorological Services of the Catalan Television (TV3, Catalonia, Spain).

Academic Awards and Honors

- 2016, 2017** **Marie Sklodowska-Curie Seal of Excellence** for **two projects** submitted to Horizon 2020 as a **principal Investigator**.
Awarded to projects recommended for funding but not funded due to budgetary limits: LEANSEA (2017) "Lead Sources and distribution in the Northern Seas". LEADSI (2016) "Lead sources and distribution in the Northern Hemisphere Seas—the impact of anthropogenic activities". Collaborating institutions: MIT USA (Dr. Edward Boyle) and UB (Dr. Leopoldo Pena and Dr. Anna Sanchez Vidal).
- 2016** **Extraordinary Doctoral Award** for the **PhD Thesis**, University of Barcelona.
This prize is awarded to the best PhD theses among those which received the *Cum Laude* distinction every academic year.
- 2014** **Mobility Fellowship** 2014 (The Montcelimar Foundation, UB).
3 weeks of full financial support for specific research at a foreign institution (Hellenic Centre for Marine Research, Greece).
- 2012** **Mobility Fellowships** (Euromarine Program 2012)
3 months of full financial support for specific research at a foreign institution (Hellenic Centre for Marine Research, Greece).
- 2011 - 2015** **PhD fellowship**, Ministry of Education, Spanish Government.
Full salary plus benefits. Grad school tuition, 48 months (\$25000/year).

Professional Affiliations

Geochemical Society, American Geophysical Union (AGU), Oceanography Society.

Professional Service (Management and committees)

- 2019-present** **Topic Editor** in **Frontiers in Earth Science** for the research topic "The Oceanic Particle Flux and its Cycling Within the Deep Water Column". Reviewer for numerous science journals.

- 2019** **Co-Chair** in the International Goldschmid Conference **session** "The Oceanic Particle Flux and its Cycling Within the Deep Water Column", Barcelona, August 2019.
- 2010 - 2016** **Assistant Secretary, Doctoral Program in Marine Science** (University of Barcelona, Coord. Miquel Canals).
- 2011 - 2016** **Student Representative**, Doctoral Program in Marine Science (University of Barcelona).
- 2013** **Ad hoc Reviewer, Doctoral Programs** for the Andalusian Agency of Knowledge (AGAE). Assessment tasks for verification and modification of official Doctoral Programs 2012 (member of the **doctoral committee**).
- 2012** Assistant organizer for the **International conference** "The Deep-Sea & Sub-Seafloor Frontiers Conference" (DS3F) 11-14 March 2012, Sitges, Barcelona.

Reviewer for Progress in Oceanography, Biogeoscience, Geochimica et Cosmochimica Acta, Continental Shelf Research.

Scientific expertise

Analytical chemistry: analysis of lipid biomarkers (GC-MS and GC-IRMS), elemental composition (C, OC, TN and CaCO₃) and the stable isotopic composition ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$), grain size, elemental analysis (ICP-MS and ICP-OES), imaging (SEM/EDS).

Oceanographic instrumentation: sediment traps (PPS3 and McLane), in situ pumps, GO-FLO bottles, manta trawl, CTDs, multicorer, boxcorer, Van Veen grabs and gravity corers, acoustic releases and release units (Benthos and IXBLUE Acoustic), current meters (Anderaa RCM8/9 and Aquadopp), SBE 37-SM MicroCAT.

Analytical software: GC/MSD ChemStation and ChromPerfect (GC-MS data acquisition and instrument control).

Oceanographic instrumentation software: Sedtrans 05, Piege (motor sediment trap), Data Reading Program (software RCM8/9 current meter and ADCP), Nortek software (Aquadopp current meter), SBE Data Processing, Seave and Seaterm.

Mapping, statistics and illustration software: Ocean Data View, ArcGis, Statgraphics, R, Photoshop, Corel, Grapher.

Other expertise

Languages: Fluent in Catalan, Spanish and English. Basic knowledge of French.

Photography (studies: initiation, intermediate, advanced and Adobe Photoshop).
2014-16 Photographer of the musical "Fang i Setge".

Illustrations (design of diagrams, T-shirts, logotypes, etc.).

Diving: Open water diver certificate (PADI).

Participation in Research Projects

(1 USA, 5 European, 5 Spanish).

- 2016 - present Oceanic Flux Program (OFP) Particle Flux Time-Series.** *PI:* Maureen Conte. **Rut Pedrosa Pàmies** is **PI of OFP-subaward** Oct 2018 - Sep 2021 at the Marine Biological Laboratory. *Funding:* National Science Foundation.
Role: 2016-2018 Postdoctoral Scientist. 2018-present Research Scientist and **co-PI**. Oceanographer and organic chemist investigating the particle fluxes in the Sargasso Sea and the coupling of chemical/physical/biological processes that

impact the deep ocean. Participant on 7 turnaround cruises, assistance with project development, student mentoring and OFP divulgation.

- 2015 - 2016** **I-MarCat** (Indicators of the environmental status of the Catalan-Balearic Sea). *PI:* Miquel Canals. *Funding:* Institute for Catalan Studies.
Role: environmental data synthesis, data base design, report preparation and scientific communication manager.
- 2014 - 2016** **NUREIEV** (New challenges on submarine canyon research: indicators of environmental status and spatiotemporal variability - The role of sea storms). *PI:* Miquel Canals and Anna Sànchez Vidal. *Funding:* Ministry of Education and Science.
Role: cruise planning and participant (multicorer sediment collection, mooring preparation and microplastic sampling).
- 2013 - 2016** **MIDAS** (Managing Impacts of Deep-sea Resource Exploitation). *PI:* Phil Weaver (coord., NOC, UK), Miquel Canals (UB). *Funding:* EC Framework7.
Role: elemental analysis by IPC-MS of mine tailings of Portman Bay (SE Spain) to evaluate impacts of mining on deep-sea ecosystems and cruise participation.
- 2012 - 2015** **PERSEUS** (Policy-oriented marine Environmental Research for the Southern European Seas). *PI:* Evangelos Papathanassiou (coord, HCMR, Greece), Miquel Canals (UB). *Funding:* EC Framework 7.
Role: cruise planning and participant (**Chief Scientist** for 2 cruises).
- 2011** **PROMARES – Oasis del Mar.** *PI:* Miquel Canals. *Funding:* European Commission, the Spanish Ministry of Science and Innovation, the “la Caixa” Welfare Projects initiative.
Role: elemental and isotopic composition analysis, cruise planning and participant.
- 2011 - 2013** **DOSMARES** (Deep- water submarine canyons and slopes in the Mediterranean and Cantabrian seas: from synchrony of external forcing to living resources). *PI:* Miquel Canals (UB, Spain). *Funding:* Ministry of Economy and Competitiveness.
Role: cruise planning and participant.
- 2010 - 2013** **REDECO** (Regional Drivers of Ecosystem Change and its Influence on Deep-Sea populations in the Mediterranean). *PI:* Nikolaos Lampadariou (coord., HCMR, Greece), Miquel Canals (UB, Spain). *Funding:* Ministry of Economy and Competitiveness.
Role: elemental, isotopic and organic molecular composition analysis, satellite data analysis, report/manuscripts writing, cruises organizer/participant.
- 2009 - 2012** **HERMIONE** (Hotspot Ecosystem Research and Man’s Impact ON European Seas). *PI:* Phil Weaver (coord., NOC, UK), Miquel Canals (UB). *Funding:* EC Framework 7.
Role: elemental, isotopic and organic molecular composition analysis, conference presentations, cruise participation.
- 2009 - 2011** **BIOFUN** (BIOdiversity and ecosystem FUNctioning in contrasting southern European deep-sea environments). *PI:* Francesc Sardà (ICM-CSIC, Spain).
Funding: European Science Foundation.
Role: elemental and isotopic composition analysis and manuscript writing.
- 2009 - 2010** **PROMETEO** (Integrated study of deep western Mediterranean canyons and slopes: an essential habitat). *PI:* Miquel Canals (UB, Spain). *Funding:* Ministry of Education and Science.
Role: elemental and isotopic composition analysis, conference presentations and manuscript writing.

Oceanographic cruises (32)

(Highlighted the most relevant role/task)

- 2016-present** **Oceanic Flux Program (OFP) Time-Series.** R/V Atlantic Explorer. Sargasso Sea (Atlantic Ocean). 8 cruises: 29Oct-3Nov 2019, 25-30 April 2019, 26-31 Oct 2018, 1-5 Jun 2018, 25-29 Jan 2018, 21-27 Oct 2017, 22-28 Apr 2017, 26 Oct-2 Nov 2016. 6-day cruises for recovery/turnaround/redeployment of the OFP mooring and associated sampling (particle collection with in situ pumps, Go-Flo bottles, CTD profiles, Van Veen Grab).
- 2016-2011** **Cap de Creus Time-Series** (CC100, PERSEUS and HERMIONE projects). R/V Lluerna. Gulf of Lions (NW Mediterranean Sea). 8 cruises: 15 Jun 2016, 6 Nov 2015, 12 Jun 2015, 19 Jun 2014, 11 Dec 2013, 27 Jun 2012, 27 Jun 2012, 9 Dec 2011. Recovery/turnaround/redeployment of the mooring and microplastic sampling with manta trawl.
- 2014-2016** **NUREIEV and MIDAS-PORTMAN.** R/V Angeles Alvariño. Porman (NW Mediterranean Sea). 4 cruises: 7-14 May 2016 and 22-29 Apr 2016, 28 Aug - 6 Sep 2015, 12-25 Mar 2015 and 05-18 Aug 2014. Multicorer sediment sampling and microplastics sampling with manta trawl. **Shift leader** scientist during 2 cruises.
- 2013-2015** **Menorca short time-series.** PERSEUS project. R/V Socib. NW Mediterranean Sea. 3 cruises: 4-6 Feb 2016, 12-14 Oct 2015, 4-5 Dec 2013. Recovery/turnaround/redeployment of the mooring. **Chief Scientist** on two cruises.
- 2014** **MIDAS-HIERRO.** R/V Angeles Alvariño. Canarias Islands. 07-18 Nov 2014. Remote underwater vehicle (ROV) imaging and multicorer sampling of the el Hierro submarine volcano
- PERSEUS.** R/V Aegeo. E Mediterranean Sea. 20-25 Mar 2014. Water column sampling with CTD rosette for organic molecular tracers.
- 2013** **DOSMARES.** R/V Sarmiento de Gamboa. Cantabrian Sea. 2 cruises: 23-27 Feb 2013 and 23-29 Sep 2012. R/V García del Cid. NW Mediterranean Sea. 10-20 Mar 2012. Recovery/turnaround/redeployment of 4 moorings, CTD profiling, multicorer sediment sampling and deep sea fishing of bathypelagic species.
- 2012-2013** **Ierapetra Time-Series REDECO.** R/V. Aegeo. (E Mediterranean Sea). 2 cruises: 6-10 Sep 2013, 9-14 Jun 2012. Recovery/turnaround/redeployment of a very deep mooring 4400 m and multicorer/boxcorer sediment sampling. **Chief Scientist** of the **University of Barcelona scientific party** on the ship.

Other cruise participation

- 2011** COCAN. 25 Oct -7 Nov 2011. Cantabrian Sea (Atlantic Ocean). R/V Miguel Oliver. PROMARES. 29 Jun-15 Jul 2011. NW Mediterranean Sea. R/V Sarmiento de Gamboa. UNIBARNA-2011. 26-28 Feb 2011. Ria de Vigo, Galicia. R/V. Cornide de Saavedra.
- 2010** HERMIONE. 13-17 Oct 2010. N of Norway (Atlantic Ocean). R/V G. O. Sars.
- 2009** HERMESIONE. 13-28 Sep 2009. W Mediterranean. R/V BIO Hespérides.

Specialized training

- Mar. 2018** UNOLS Chief Scientist Training. University of Rhode Island Graduate School of Oceanography. *Duration:* 9 h.

- Nov. 2017** Writing About Science for the Public: A Workshop for Scientist. Marine Biological Laboratory. *Duration*: 16 h.
- April 2017** IT Security Awareness and Preventing Workplace: Harassment. *Duration*: 5 h.
- Jan. 2017** Sea turtle necropsy training. Helping Wellfleet Bay Wildlife Sanctuary. *Duration*: theory 1 hour, sampling 12 h.
- Dec. 2015** Workshop “Biological and climatic impacts of ocean trace element chemistry”. Royal Society, London, England. *Duration*: 16h.
- Apr. 2015** FixO3 Network – Workshop D8.11 “An Introduction and practical use of European marine data infrastructures”. Bremen, Germany. *Duration*: 15h.
- Jul. 2014.** Course Introduction to ArcGIS: Marine Geosciences Applied. University of Barcelona. *Duration*: 12h.
- Jan. 2014** MATLAB course. Basic tools for analysis of geophysical variables. University of Barcelona. *Duration*: 21h.
- Jun. 2013** Course of centrifuges and centrifuge processes. Company Steriltech, University of Barcelona. *Duration*: 3h.
- May. 2013** Theoretical/practical course ICP-MS. Department of Graduate and Specialization - ICTJA-CSIC (Barcelona). *Duration*: 23h.
- Jun. 2012** Course “Are your GEOTRACES data reliable?” A 3-day essential training school on data quality of marine trace elements and isotopes. Geel&Leuven, Belgium. *Duration*: 20h.
- May. 2011** Course “Modern mass transport and turbidite systems: Importance for hazards and resources”. Dr. Hans Nelson. University of Barcelona. *Duration*: 13h.
- Mar. 2010** Seminar on Prevention of Hazards Research Laboratories (OSSMA). University of Barcelona. *Duration*: 4 h.

Publications

(14 peer-reviewed publications, 6 as a first author)

Pedrosa-Pàmies, R., Conte, M. H., Weber, J.C., Johnson, R. Hurricane Nicole enhanced labile carbon export into the deep ocean. *Geophysical Research Letters*, 46, 10484-10494. doi.org/10.1029/2019GL083719

de Haan, W. P., Sanchez-Vidal, A., Canals, M., **NUREIEV1 Shipboard Scientific Party** (2019). Floating microplastics and aggregate formation in the Western Mediterranean Sea. *Marine Pollution Bulletin*, 140, 523–535. doi.org/10.1016/J.MARPOLBUL.2019.01.053 (*NUREIEV1 Shipboard Scientific Party includes **Pedrosa-Pàmies, R.**).

Cisneros, M., Cacho, I., Frigola, J., Sanchez-Vidal, A., Calafat, A., **Pedrosa-Pàmies, R.**, et al. (2019). Deep-water formation variability in the north-western Mediterranean Sea during the last 2500 yr: A proxy validation with present-day data. *Global and Planetary Change*, 177, 56-68, doi.org/10.1016/J.GLOPLACHA.2019.03.012

Pedrosa-Pàmies, R., Conte, M. H., Weber, J.C., Johnson, R., 2018. Carbon cycling in the Sargasso Sea water column: insights from lipid biomarkers in suspended particles. *Progress in Oceanography*, 168, 248-278, [doi: 10.1016/j.pocean.2018.08.005](https://doi.org/10.1016/j.pocean.2018.08.005).

Danovaro, R., Canals, M., Tangherlini, M., Dell’Anno, A., Gambi, C., Lastras, G., Amblas, D., Sanchez-Vidal, A., Frigola, J., Calafat, A.M., **Pedrosa-Pàmies, R.**, Rivera, J., Rayo, X., Corinaldesi, C., 2017. A submarine volcanic eruption leads to a novel microbial habitat. *Nat. Ecol. Evol.* 1, 0144, [doi:10.1038/s41559-017-0144](https://doi.org/10.1038/s41559-017-0144).

Quirós-Collazos, L.*, **Pedrosa-Pàmies, R.***, Sanchez-Vidal, A., Guillén, J., Duran, R., Cabello, P., 2017. Distribution and sources of organic matter in size-fractionated nearshore and inner-shelf sediments of the NW Mediterranean. *Estuarine, Coastal and Shelf Science*, 189, 267-280., [doi: 10.1016/j.ecss.2017.03.004](https://doi.org/10.1016/j.ecss.2017.03.004). ***Both authors contributed equally to this work.**

Pedrosa-Pàmies, R., Sanchez-Vidal, A., Canals, M., Lampadariou, N, Dimitris, V., Gogou, A., Parinos, C., Calafat, A., 0213. Enhanced carbon export to the abyssal depths driven by atmosphere dynamics. *Geophysical Research Letters*, 43 (16), 8626-86-36, doi: 10.1002/2016GL06978. * *This paper had a coverage by the media and was cited in several national and international newspapers including University of Barcelona News, La Vanguardia, El Confidencial, Science and Science Daily.*

Pedrosa-Pàmies, R., Parinos, C., Sanchez-Vidal, A., Gogou, A., Calafat, A., Canals, M., Bouloubassi, I., Lampadariou, N., 2015. Composition and sources of sedimentary organic matter in the deep Eastern Mediterranean Sea. *Biogeosciences*, 12, 9935-9989, doi: 10.5194/bgd-12-9935-2015.

Pedrosa-Pàmies, R., Sanchez-Vidal, A., Calafat, A., Canals, M. and Durán, R., 2013. Impact of storm-induced remobilization on grain size distribution and organic carbon content in sediments from the Blanes Canyon area, NW Mediterranean Sea. *Progress Oceanography*, 118, 122-136, doi: 10.1016/j.pocean.2013.07.023.

Durán, R., Canals, M., Lastras, G., Micallef, A., Amblas, D., **Pedrosa-Pàmies, R.** and Sanz, J. L., 2013. Sediment dynamics and post-glacial evolution of the continental shelf around the Blanes submarine canyon head (NW Mediterranean). *Progress in Oceanography*, 118, 28-46, doi: 10.1016/j.pocean.2013.07.031.

Parinos, C., Gogou, A., Bouloubassi, I., **Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Velaoras, D., Krokos, G., Hatzianestis, I., Lykousis, V., 2013. Distribution and sources of natural and anthropogenic hydrocarbons in surface sediments from deep basins of the open Eastern Mediterranean Sea. *Biogeosciences*, 10, 6069-6089, doi: 10.5194/bg-10-6069-2013.

Rumín-Caparrós, A., Sanchez-Vidal, A., Calafat, A., Canals, M., Puig, P., Martín, J., **Pedrosa-Pàmies, R.**, Amblas, D., Rayo, X., 2013. External forcing, oceanographic processes and mass flux dynamics of Cap de Creus submarine canyon, NW Mediterranean Sea. *Biogeosciences*, 10, 3493-3505, doi: 10.5194/bg-10-3493-2013.

Sanchez-Vidal, A., Canals, M., Calafat, A.M., Lastras, G., **Pedrosa-Pàmies, R.**, Menéndez, M., Romero, J., Hereu, B., Alcoverro, T., 2012. Impacts on the deep-sea ecosystem by a severe coastal storm. *PLoS ONE* 7(1): e30395, doi:10.1371/journal.pone.0030395. * *This paper had a large coverage by the media and was cited in several newspapers including ScienceNow section of the Science Magazine.*

Techio, S, Ramírez-Llodra, E, Sardà, F, Company, J.B. **Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., 2011. Environmental drivers of deep Mediterranean megabenthos communities along longitudinal and bathymetric gradients. *Marine Ecology Progress Series*, 439, 181-192, doi: 10.3354/meps09333.

Non-Peer-reviewed Publications

De Mol, B., Amblas, D., Alvarez, G., Busquets, P., Calafat, A., Canals, M., Duran, R., Lavoie, C., Acosta, J., Muñoz, A., **HERMESIONE Shipboard Party**, 2012. Cold-Water Coral Distribution in an Erosional Environment: The Strait of Gibraltar Gateway. *Seafloor Geomorphology as Benthic Habitat*, 635-643, doi: 10.1016/B978-0-12-385140-6.00045-1.

De Mol, B., Amblas, D., Calafat, A., Canals, M., Duran, R., Lavoie, Muñoz, A., Rivera, J., **HERMESIONE, DARWIN CD178, and COBAS Shipboard Parties**, 2012. Cold-Water Coral Colonization of Alboran Sea Knolls, Western Mediterranean Sea. *Seafloor Geomorphology as Benthic Habitat*, 819-829, doi: 10.1016/B978-0-12-385140-6.00060-8.

Conference and Workshop Contributions

(42 in total, 22 as a first author, below selection of the most relevant)

Pedrosa-Pàmies, R., Conte, M. H., Weber, J.C., Johnson, R., February 2020. Hurricanes enhance the ocean's biological carbon pump. Poster. Ocean Sciences Meeting, San Diego (USA).

- Hilditch, J., Conte, M. H., Johnson, R., Pacheco, F., **Pedrosa-Pàmies, R.**, February 2020. Investigation of Eddy - Storm Induced Near Inertial Wave Motions in the Northern Sargasso Sea. Poster. Ocean Sciences Meeting, San Diego (USA).
- Conte, M. H., Hopkins, B., Karagiannis, M., Weber, J.C., **Pedrosa-Pàmies, R.**, February 2020. Organic Carbon Production and Remineralization in the Oligotrophic Water Column Assessed Using Compound-specific Stable Isotopic Composition of Particulate Fatty Acids. Poster. Ocean Sciences Meeting, San Diego (USA).
- Pedrosa-Pàmies, R.**, Javier Lloret J., Vandal, N., McGuire, C., Chenoweth, K., Valiela, I., October 2019. Poster. Microplastics in Cape Cod salt marsh sediments: history and abundances. Microplastic International Workshop, Woods Hole (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., Johnson, R., August 2019. Impact of major hurricanes on the deep ocean. Talk. Goldschmidt Conference, Barcelona (Spain).
- Pedrosa-Pàmies, R.**, September 2018. Microbiome of the deep ocean: combination of molecular geochemistry and metagenomics. Talk. MBL Micro-Eco Discussion Group.
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., Johnson, R., June 2018. Impact of Hurricane Nicole on carbon cycling in the Sargasso Sea water column: Insights from lipid biomarkers in suspended and sinking particles. 3 min flash talk and poster. Ocean Carbon & Biogeochemistry OCB Meeting, Woods Hole, Massachusetts (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., April 2018. The Oceanic Flux Program: tracing extreme weather events using lipid biomarkers. Talk. Flash talk session in the Marine Biological Laboratory, Massachusetts (USA).
- DeFelippis E, Conte, M. H., Weber, J.C., **Pedrosa-Pàmies, R.**, March 2018. Lipid and stable isotopes profiles in cold-stunned sea turtles of Cape Cod. Talk. Cape Cod Natural History Conference 2018, Barnstable (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., Johnson, R., February 2018. Impact of Hurricane Nicole on particle cycling in the Sargasso Sea traced using lipid biomarkers (IS12A-06). Talk. Ocean Science Meeting, Portland, Oregon (USA).
- Conte, M. H., **Pedrosa-Pàmies, R.***, Weber, J.C., December 2017. Organic matter diagenesis within the water column and surface sediments of the northern Sargasso Sea revealed by lipid biomarkers (B31G-02). *Talk. American Geophysical Union AGU Fall Meeting, New Orleans (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., December 2017. Insights into particle cycling in the Sargasso Sea from lipid biomarkers in suspended particles: Seasonality and physical forcing (B33A-2081). Talk. American Geophysical Union AGU Fall Meeting, New Orleans (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., August 2017. Particle cycling in the Sargasso Sea water column revealed by lipid biomarkers in suspended particles: Seasonality and physical forcing. 2 min. talk and poster. Gordon Research Conference, New Hampshire, Main (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., June 2017. Particle cycling in the Sargasso Sea water column revealed by lipid biomarkers in suspended particles: Seasonality and physical forcing. Poster. Ocean Carbon & Biogeochemistry OCB Meeting, Woods Hole, Massachusetts (USA).
- Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., April 2017. Lipid biomarker composition of suspended particles in the Sargasso Sea water column: Changes with seasonality and physical forcing. Poster. Trustee Meeting Bermuda Institute of Ocean Sciences, Bermuda (UK).
- Peadar de Hann, W, Sanchez-Vidal, A., Amblas, D., Aymà, A., Calafat, A., Canals, M., Cerdà- Domenech, M., **Pedrosa-Pàmies, R.**, Rayo, X., Rumin-Caparrós, A., September 2016. Monitoring floating microplastic debris in the western Mediterranean Sea. Poster. CIESM Congress, Kiel, Germany.

- Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Calafat, A., Parinos, C., Gogou, A., Canals M., Lampadariou, N., February 2015. Atmospheric forcing of carbon export to the deep eastern Mediterranean Sea. Talk. ASLO Aquatic Science Meeting, Granada (Spain).
- Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Calafat, A., Parinos, C., Gogou, A., Canals M., Lampadariou, N., November 2014. Three-year assessment of particulate fluxes in the deep eastern Mediterranean Sea: the Ierapetra Basin. Talk. International Ocean Research Conference, Barcelona (Spain).
- Quirós, L., **Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Guillén, J., Durán, R., November 2014. Carbon and nitrogen contents and their isotopic composition in size-fractionated near-shore sediments off Barcelona. Poster. International Ocean Research Conference, Barcelona (Spain).
- Pedrosa-Pàmies, R.**, Gogou, A., Sanchez-Vidal, A., Parinos, C., Calafat, A., Canals, M., Bouloubassi, I., Lampadariou, N., April 2014. Composition and sources of sedimentary organic matter in deep basins of the North-Eastern Mediterranean Sea (10069). Poster. EGU (European Geosciences Union) General Assembly. Vienna (Austria).
- Sanchez-Vidal, A., Calafat, A., Canals, M., **Pedrosa-Pàmies, R.**, February 2014. The relevance of atmosphere-driven oceanographic processes in submarine canyons for the carbon cycle in the NW Mediterranean Sea. Talk. Ocean Science Meeting ASLO-AGU (Hawaii).
- Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Calafat, A., Canals, M., Parinos, C., Gogou, A., Lampadariou, N., February 2013. The deep basins of the Eastern Mediterranean Sea: results of a two-year physical and biogeochemical assessment. Annual ReDEco meeting. Talk. Athens (Greece).
- Pedrosa-Pàmies, R.** *, Veres, O. *, Rumín-Caparrós, A. *, February 2013. Marine sedimentary particles as drivers of the deep marine ecosystem. Talk. Conference on Interdisciplinary Doctoral Researchers (JIPI, University of Barcelona), Barcelona (Spain). (*equally contributed)
- Canals, M., Sanchez-Vidal, A., Calafat, A., **Pedrosa-Pàmies, R.**, Lastras, G., April 2013. Extreme event impacts on seafloor ecosystems. Talk. EGU (European Geosciences Union) General Assembly. Vienna (Austria).
- Durán, R., Canals, M., Lastras, G., Sanchez-Vidal, A., Micallef, A., Amblas, D., **Pedrosa-Pàmies, R.**, September 2012. Seafloor impact of episodic events in the neighbourhood of Blanes submarine canyon head, NW Mediterranean Sea. Poster. 3rd Annual Hermione Meeting. Faro (Portugal).
- Rumín-Caparrós, A., Sanchez-Vidal, A., Calafat, A., Canals M., Puig P., Martín, J., **Pedrosa-Pàmies, R.**, Amblas, D., Rayo, X., September 2012. 2009-10 and 2010-11 winter dense shelf water formation in the Gulf of Lion and its consequences in Cap de Creus submarine canyon. Talk. 3rd Annual Hermione Meeting. Faro (Portugal).
- Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Calafat, A., Canals, M., Lampadariou, N., September 2012. The deepest ecosystem in the Eastern Mediterranean Sea: results of a two-year physical and biogeochemical assessment. Talk. 3rd Annual Hermione Meeting. Faro (Portugal).
- Sanchez-Vidal, A., Calafat, A., Canals, M., **Pedrosa-Pàmies, R.**, López-Fernández, P., Lastras, G. March 2012. Extreme Event impacts on Seafloor Ecosystems. Poster. Deep-Sea and Sub-Seafloor Frontiers Conference. Sitges (Catalonia, Spain).
- Pedrosa-Pàmies, R.**, Sanchez-Vidal, A., Calafat, A., Canals, M., Parinos, C., Gogou, A., Lampadariou, N., December 2011. Regional Drivers of Ecosystem Change and its Influence on Deep-Sea Populations in the Mediterranean. Talk. Annual ReDEco meeting. Barcelona (Spain).
- Sanchez-Vidal, A., Calafat, A., **Pedrosa, R.**, López, P., Canals, M., November 2011. Particulate organic carbon export during eastern storms in the Catalan sea. Poster. SESAME (Southern European Seas: Assessing and Modelling Ecosystem Changes) Final Meeting. Athens (Greece).
- Sanchez-Vidal, A., **Pedrosa, R.**, López, P., Pasqual, C., Calafat, A., Canals, M., Cateura, J., Flexas, M., April 2011. Offshore transport of organic matter during storms. Poster. EGU (European Geosciences Union) General Assembly 2011. Vienna (Austria).

Pedrosa-Pàmies, R., Sanchez-Vidal, A., Calafat, A., Canals, M., April 2011. Organic-mineral interactions in sediments of the Catalan margin: the influence of extreme events. Poster. HERMIONE, Second Annual Meeting. Estepona (Spain).

Pedrosa-Pàmies, R., Sanchez-Vidal, A., Calafat, A., Canals, M., May 2010. Estudio de las variaciones geoquímicas y sedimentológicas en los sedimentos del cañón de Blanes y talud adyacente. Anual Meeting PROMETEO. Talk. Barcelona (Spain).

Educational Activities

Teaching

- 2019 Undergraduate Course Marine Biological Laboratory: Microbiomes Across Environments**
Lecture in Lipid biomarkers (1.5h)
- 2015-2016 Masters Program in Science and Integrated Management of Water** (University of Barcelona). Lecture in Marine Waters.
Topic: "Sedimentology laboratory: techniques and instruments"
- 2013-2015 Masters Program in Marine Science** (University of Barcelona)
Lectures in Geology of the Oceans:
Topic: "'Hydro-sedimentary study of a submarine canyon" (TA, 2015).
Topic: "Sedimentology laboratory: techniques and instruments" (2013-14, 2014-15, 2015-16).
Lecture in Biogeochemistry.
Topic: "Biogeochemistry of the ocean: GEOTRACES program and Ocean Data View" (2015-16).
- 2009 Bachelors Program in Environmental Science** (University of Barcelona).
Lecture in Environmental Geochemistry
Topic: "Analytical techniques in Sedimentology".

Student Advising and Mentoring

Co-supervising and training laboratory techniques, data interpretation, scientific manuscript writing and science communication:

Master students (University of Barcelona)

2016 *Jaume Serra Pareras*. Co-supervisors: Antoni Calafat Frau and Aitor Rumín Caparrós.

2014 *Lucía Quirós Collazos*. MsC thesis: "Carbon composition and isotopic characterization in near-shore sediments of the NW Mediterranean". Co-supervisor: Anna Sanchez Vidal.

Undergraduate students (Marine Biological Laboratory)

2019 *Miriam Ritchie* (Semester in Environmental Science student, the Ecosystems Center, Marine Biological Laboratory). Project "Do Microplastic Concentrations in Estuarine Salt Marshes Increase with Human Population Density?"

Becky Hopkins (OFP REU Conte Lab student, summer 2019). Project "Assessment of particle cycling processes in the deep ocean using the carbon isotopic". Co-supervisors: Maureen Conte and JC Weber.

Annagh Devitt (University of Chicago, Metcalf Undergraduate Fellow, summer 2019). Project "The influence of Hurricane Igor on the deep ocean carbon flux". Co-supervisors: Maureen Conte.

Nicole Vandal (NSF REU). Project "Microplastics everywhere: The history of microplastic pollution in Cape Cod salt marsh". Co-supervisors: Javier Lloret and Ivan Valiella.

Ruby Rorty (University of Chicago, Metcalf Undergraduate Fellow, summer 2019). Project "Population and Plastic Pollution: Abundance, Sources, and Composition of Microplastics in Cape Cod Salt Marshes". Co-supervisors: Javier Lloret and Ivan Valiella.

- 2018** *Claire McGuire* (Semester in Environmental Science student, the Ecosystems Center, Marine Biological Laboratory). Project: "Plastic Marsh (The Tenacity). A look back at the varying anthropogenic impacts on estuary systems through microplastic pollution and stable isotopes". Co-supervisor: Javier Lloret.
- Casey Beidelman* (Semester in Environmental Science student, the Ecosystems Center, Marine Biological Laboratory). Project: "Plastic Beach (The Spread): Microplastic distribution and composition across the tidal range of Cape Cod beaches".
- Hector Salazar* (Semester in Environmental Science student, the Ecosystems Center, Marine Biological Laboratory). Project: "Plastic Beach (The Arrival) Spatial heterogeneity of microplastic pollution on Cape Cod beaches and the impacts of different hydrographic sources".
- Emily DeFelippis* (OFP REU Conte Lab student, summer 2018). Project "Particulate Carbon cycling in the Sargasso Sea water column: insights from lipid biomarkers to evaluate seasonality".
- Marianna Karagiannis* (University of Chicago, Metcalf Undergraduate Fellow, summer 2018). Project "Origins of Deep Sea Polyunsaturated Fatty Acids Assessed Using Compound Specific Stable Isotopes". Co-supervisors: Maureen Conte and JC Weber.
- 2017** *Emily DeFelippis* (Semester in Environmental Science, the Ecosystems Center, Marine Biological Laboratory). Project: "Fatty acid and stable isotope profile in juvenile sea turtles of Cape Cod in relation to diet". Co-supervisors: Maureen Conte and J.C. Weber.
- Johanna Holo* (University of Chicago, Metcalf Undergraduate Fellow, summer 2017). Project: "Understanding particle cycling in the deep Sargasso Sea through the use of lipid biomarkers". Co-supervisor: Maureen Conte.
- Franklina Yeboah* (Woods Hole Partnership in Education Program (PEP) Student, summer 2017). Project: "Assessing juvenile sea turtle habitat and nutritional history in Cape Cod waters using stable isotopes". Co-supervisors: Maureen Conte and J.C. Weber.
- Michael Callahan* (OFP REU Conte Lab student, summer 2017). Project: "Carbonate in the sinking and suspended particles in the Sargasso Sea". Co-supervisors: Maureen Conte and J.C. Weber.
- 2016** *Michael Daugherty* (Semester in Environmental Science student, the Ecosystems Center, Marine Biological Laboratory). Project: "Adsorption of organic pollutants to microplastics: The effects of dissolved organic matter". Co-supervisors: Maureen Conte and J.C. Weber.

High school students (Marine Biological Laboratory)

- 2018** *Jack Daigneault* (Mashpee High School), *Geovanna Pereira* (Mashpee High School), and *Deshawn Adler* (Mashpee High School). Spring and summer 2018. Co-supervisors: Maureen Conte, J.C. Weber and Alana Thurston.
- 2016** *Michael Callahan* (Bourne High School). Co-supervisors: Maureen Conte and J.C. Weber.

Outreach

- Mar 2020** Appearance in an outreach mini-article in a local journal from the catalan city Esparreguera : Espavila (<https://agendaespavila.cat/se-sumergeix-al-fons-mari-per-nosaltres/>)
- August 2018 and 2019** Woods Hole Science Stroll, Ecosystems Center, Marine Biological Laboratory. Oceanic Flux Program exhibit (posters, microscope, design of a water column sedimentation prototype, slideshow, etc.). Design of "make your own minimoorings line", "core the seafloor", and a "shaking" model of water column with settling particles to transfer the knowledge of oceanographic instrumentation and particle cycling in the deep ocean to the general public.
- February 2018** International day of women and girls in science: production of a short motivational speech video for encouraging Catalan High School students to keep studying (www.youtube.com/watch?v=g9E9KZQSuil).

- 2017 - 2018** Volunteer, Mass Audubon/NOAA necropsies of cold-stunned turtles from Cape Cod beaches, coordinated by Robert Prescott (Mass Audubon).
Sampling of turtle tissues for analysis of lipids and stable isotopes.
- 2017 - present** Volunteer, Baywatcher for The Buzzards Bay Coalition.
Collection of environmental variables and nutrient samples.
- 2017 - present** Judge, Falmouth Public School Science & Engineering Fairs.
- 2016 - present** Volunteer, Woods Hole Science and Technology Education Partnership (WHSTEP) Association.
Article "Web Resources for Expanding Science" (WHSTEP 2017 Issue, Volume 27, 1) (Science Teaching resources). WHSTEP Family Science Night: *Thinking Big & Looking Small*. Oceanic Flux Program exhibit (October 2016).
- 2017** MBL/UC *Thinking Big & Looking Small* microscopic exhibition. Oceanic Flux Program exhibit (posters, slideshow, etc.).
- 2001 - 2007** Participant in several international exchange and environmental volunteer programs (Catalonia, Spain, Sweden and Poland).
Invasive species removal (*Caulerpa Taxifolia*), archaeological and paleontological excavations, forest and field restoration, intercultural exchanges, etc.