

## ***Curriculum Vitae (Nov 2023)***

### **RUT PEDROSA PÀMIES, Ph.D.**

Assistant Research Investigator  
The Ecosystems Center  
Marine Biological Laboratory  
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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.
- Role of microbes in regulating particle fluxes and sedimentation processes in marine ecosystems.
- Transfer and fate of organic pollutants and microplastics in the environment.

#### **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**

- 2022-present**    **\*Assistant Research Investigator.** The Ecosystems Center, Marine Biological laboratory (Woods Hole, MA, USA). (\*equivalent of a tenure-track position)
- 2018-present**    **Research Scientist.** The Ecosystems Center, Marine Biological laboratory (Woods Hole, MA, USA).
- 2016 - 2018**    **Postdoctoral Scientist.** The Ecosystems Center, Marine Biological laboratory (Woods Hole, MA, USA). 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 Scientific 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**, "Formación de Profesorado Universitario (FPU)", Ministry of Education, Spanish Government.  
Full salary plus benefits. Grad school tuition, 48 months (\$25000/year).
- 2009-2010** **Undergraduate fellowships** to collaborate with the Research Group on Marine Geoscience from Barcelona Scientific Park and from Ministry of Education, Spanish Government.

## Professional Affiliations

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

## Professional Service (Management and committees)

- 2023-** **Advisor PhD Committee** Charlotte Schnepfer (ETH, Zurich).
- 2023-** **NSF EarthCube-funded Research Coordination Network (METS-RCN) steering committee representative** for the long-time series Oceanic Flux Program. Helping to develop FAIR data practices for commonly measured biological and biogeochemical variables in time-series.
- 2023-2024** **Chair** in the in the International Ocean Science Meeting (New Orleans, February 2024) sessions:  
"Time Series Observations of Ocean Biogeochemistry: What We Have Learned and What We Will Learn" (Co-chairs: M. Noguchi Aita, M. Honda and A. E White)  
"Behavior, Fate, and Ecosystem Impacts of Aquatic Plastics Debris" (Co-chairs: M. Duhaime, Z. Liu and J. K. Choi)
- 2023-** **Topic Editor** in **Frontiers in Earth Science** for the research topic "The Oceanic Particle Flux and its Cycling Within the Deep Water Column II".
- 2021-2022** **Lead chair** in the International Ocean Science Meeting session "Biogeochemistry of marine particles: from coastal to deep ocean", Honolulu, February 2022. (Co-chairs: Z. Liu, A. Bochdansky, A. Engel)
- 2020** **Editor** of the Ecosystems Center (Marine Biological Laboratory) [Annual Report 2018-2019](#).
- 2019-2021** **Topic Editor** in **Frontiers in Earth Science** for the research topic "The Oceanic Particle Flux and its Cycling Within the Deep Water Column I".
- 2019** **Co-Chair** in the International Goldschmidt 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 proposals** for the National Science Foundation.

**Review for journals:** Progress in Oceanography, Biogeoscience, Geochimica et Cosmochimica Acta, Continental Shelf Research, Aquatic Ecology, ACS Earth and Space Chemistry, Remote Sensing, Geosciences Research Letters., Limnology and Oceanography, Global Biogeochemical Cycles.

## Scientific expertise

**Analytical chemistry:** analysis of lipid biomarkers (GC-MS and GC-IRMS), elemental composition (C, OC, TN and CaCO<sub>3</sub>), 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, gravity corers, acoustic releases and release units (Benthos and IXBLUE Acoustic), current meters (Anderaa RCM8/9 and Aquadopp), SBE 37-SM MicroCAT, Acoustic Doppler Current Profiler (ADCP).

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

**Oceanographic instrumentation software:** Sedtrans 05, Piege (motor sediment trap), Tera Term, 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).

### Research Grants as PI or co-PI

**2021 - 2024 Oceanic Flux Program (OFP) Particle Flux Time-Series. Funding National Science Foundation, Chemical Oceanography Program.**

*PI:* Maureen Conte, Bermuda Institute of Ocean Sciences and MBL Fellow.

**Rut Pedrosa Pamies is the PI of the Marine Biological Laboratory subaward. (PI status to change soon)**

**MBL Subaward \$1,426,245**

**2020 - 2024 EAGER: Collaborative Research: Is plastic degradation occurring in the deep ocean water column? (PI: Rut Pedrosa Pamies. Co-PIs: Zhanfei Liu, UTAustin; Alexander Bochdansky, ODU; Emil Ruff, MBL. Subaward: Scott Gallager, WHOI. Collaborators: Jessica Mark Welch, MBL, and Maureen Conte, MBL/BIOS).**

Funding: National Science Foundation. MBL award **\$231,808.**

**Additional funding I secured for project:**

\*America Chemistry Council (ACC): **\$18,500** for polymer supplies.

\*Dow Chemical Company: **extensive in-kind support** from the Application Development Leader/Scientist to produce specific polymer types, and providing polymer samples.

**2019 A first analysis of microplastic particle abundance and blue carbon profiles in Caroni Swamp, Trinidad. (Co-PIs: Ivan Valiela, Javier Lloret, Rut Pedrosa Pamies.) Funding: Institute of Marine Affairs, Hilltop Lane, Chaguaramas, Trinidad and Tobago, \$3,000.**

**2018 - 2021 Oceanic Flux Program (OFP) Particle Flux Time-Series. Funding National Science Foundation, Chemical Oceanography Program.**

*PI:* Maureen Conte, Bermuda Institute of Ocean Sciences and MBL Fellow.

**Rut Pedrosa Pamies is the PI of the Marine Biological Laboratory subaward.**

**MBL Subaward \$985,366.**

### Other Participation in other Research Projects

- 2016 - 2018 National Science Foundation Oceanic Flux Program (OFF) Particle Flux Time-Series (1978- ).** *PI:* Maureen Conte. *Funding:* National Science Foundation. *Roles:* 2016-2018 Postdoctoral Scientist.
- 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.

### Ongoing Research Collaborators list

**US national institutions:** M. H. Conte (Marine Biological Laboratory (MBL), oceanography, organic geochemistry), E. Ruff (MBL, genomics, plastic research), J. Mark Welch (MBL, genomics/microscopy plastic research), A. Kumar (Marine Biological Laboratory, particles image analysis), J. Lloret and Ivan Valiela (MBL, coastal/estuarine plastic research), A. Subhas/M. Hashim (WHOI, carbonate chemistry), S. Gallagher (Coastal Ocean Vision/ former WHOI, microplastics research and image learning), C. Reddy (WHOI, plastic research), A. Bochdansky (ODU, microbiology and optics, plastic research), S. Neuer and Bianca Cruz (ASU, genomics), Z. Liu and X. Jiang (Univ. Texas, organic geochemistry/ plastic research), A. Deshpande (NOAA, plastic research), G. Foltz (NOAA, physical oceanography hurricanes), J. Schell (SEA, Sargassum), B. Monteleone (UNC Wilmington, ocean plastic pollution).

**Other international institutions:** T. Eglinton/C. Schnepfer (ETH, <sup>14</sup>C measurements), R. Curry and R. Johnson (BIOS/ASU, physical oceanography), M. Galí Tàpias and R. Bernardello (Barcelona Supercomputing Center, modeling), F. Martínez Ruiz and Ricardo Monedero Contreras (Univ. Granada, Ba elemental composition), A. Maas and Leocadio Blanco-Bercial (BIOS, zooplankton), Blanca Ausin Gonzalez (Univ. Salamanca, RPP advice with open ocean/mooring operations), A. Sanchez-Vidal (Univ. Barcelona, particle cycling and plastic pollution).

### Oceanographic cruises (38 cruises, 3 as Chief Scientist)

(Highlighted the most relevant role/task)

**2016-present Oceanic Flux Program (OFP) Time-Series.** R/V Atlantic Explorer. Sargasso Sea (Atlantic Ocean). **12 cruises:** 4-10 Oct 23023\***Chief Scientist**, 2-9May 2023\***Lead sci. operations**, 30Oct-6Nov 2021, 12-21 April 2021, 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.

About 6/8-day cruises for recovery/turnaround/redeployment of the OFP mooring and additional sampling (particle collection with in-situ pumps, Go-Flo bottles, CTD profiles, Van Veen Grab, etc.).

**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 for microplastic surveys.

**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 trampling 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 (Responsible for the recovery and redeployment of the mooring).

#### 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

(21 peer-reviewed publications, 8 as a first author)

Tarrés, M., Cerdà-Domènech, M., **Pedrosa-Pàmies**, R., Baza-Varas, A., Calafat, A., Sanchez-Vidal, A., Canals, M., 2023. Transport and distributions of naturally and anthropogenically sourced trace metals

and arsenic in submarine canyons. *Progress in Oceanography*, 218, doi.org/10.1016/j.pocean.2023.103122.

Conte, M., **Pedrosa-Pàmies, R.**, Honda, M., Herndl, G., 2022. The oceanic particle flux and its cycling within the deep water column. *Front. Earth Sci.* 10:1020065. doi: 10.3389/feart.2022.1020065.

Tarrés, M., Cerdà-Domènech, M., **Pedrosa-Pàmies, R.**, Rumín-Caparrós, A., Calafat, A., Canals, M., Sanchez-Vidal, A., 2022. Particle fluxes in submarine canyons along a sediment-starved continental margin and in the adjacent open slope and basin in the SW Mediterranean Sea. *Progress in Oceanography*, 203, 102783. doi:10.1016/J.POCEAN.2022.102783

**Pedrosa-Pàmies, R.**, Parinos, C., Sanchez-Vidal, A., Calafat, A., Canals, M., Velaoras, D., Mihalopoulos, N., Kanakidou, M., Lampadariou, N. and Gogou, A., 2021. Atmospheric and oceanographic forcing impact on particle flux and carbon sequestration in the Eastern Mediterranean Sea: a three-year sediment trap time-series study in the deep Ierapetra Basin, *Frontiers in Earth Science*, 9, 25, doi:10.3389/feart.2021.591948.

Lloret, J.\* , **Pedrosa-Pàmies, R.\***, Vandal, N., Rorty R., Ritchie M., McGuire, C., Chenoweth, K., Valiela, I., 2021. Salt marsh sediments act as sinks for microplastics and reveal effects of current and historical land use changes. *Environmental Advances*, 4, 100060, doi:10.1016/j.envadv.2021.100060 **\*Both authors contributed equally to this**

*\*This paper had a large coverage by the media and was cited in several newspapers (Popular Science, Standard Times-New Bedford, Cape Cod Times, Falmouth Enterprise, Rhodes College news, etc.) and local radio programs (Local NPR for the Cape, Coast & Islands).*

Bourrin, F., Uusõue, M., Artigas, M. C., Sánchez-Vidal, A., Aubert, D., Menniti, C., Klar, J., Amblás, D., Calafat, A. M., Frigola, J., Iglesias, O., Manea, E., **Pedrosa-Pàmies, R.**, Quesada, S., Rayo, X., Rivera, J., Rumín, A., Tangherlini, M. and Tubau, X., 2021. Release of particles and metals into seawater following sediment resuspension of a coastal mine tailings disposal off Portmán Bay, Southern Spain, *Environmental Science Pollution Research*, 1–18, doi:10.1007/s11356-021-14006-1.

Hayes, C. T., Costa, K. M., Anderson, R. F., Calvo, E., Chase, Z., Demina, L. L., Dutay, J. C., German, C. R., Heimbürger-Boavida, L. E., Jaccard, S. L., Jacobel, A., Kohfeld, K. E., Kravchishina, M. D., Lippold, J., Mekik, F., Missiaen, L., Pavia, F. J., Paytan, A., **Pedrosa-Pàmies, R.**, Petrova, M. V., Rahman, S., Robinson, L. F., Roy-Barman, M., Sanchez-Vidal, A., Shiller, A., Tagliabue, A., Tessin, A. C., van Hulten, M. and Zhang, J., 2021. Global Ocean Sediment Composition and Burial Flux in the Deep Sea, *Global Biogeochem. Cycles*, 35(4), e2020GB006769, doi:10.1029/2020GB006769.

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

*\*This paper had a large coverage by the media and was cited in several newspapers including WIRED, National Science Foundation blog, ScienceDaily, etc.*

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.**, Rumín-Caparrós, A. and Canals, M., 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, doi:10.1016/j.gloplacha.2019.03.012, 2019.

**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.



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. *Nature Ecology & Evolution*, 1, 0144, doi: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. **\*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., 2016. 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/bg-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.

### Other not(yet) published papers

Submitted:

**Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C. Hurricane-driven transport of Bermuda reef platform sediments to the deep ocean. *Submitted to JGR Oceans*.

Joern, G., **Pedrosa-Pàmies, R.**, Jiang, X., Liu, Z., Bochdansky, B. Marine Plastisphere Biofilm Community Succession in a Mid-Latitude Tidal Sub-Estuary: Can Microbial Biofilms Induce Sinking of Buoyant Plastics? *Submitted to Environmental Science and Pollution Research*

Jiang, X., Gallagher, S., **Pedrosa-Pàmies, R.**, Ruff, E., Liu, Z. Laboratory-Simulated Photoirradiation Reveals Strong Resistance of Primary Macroplastics to Weathering. *Submitted to Environmental Science and Technology*.

*To be submitted soon:*

Conte, M. H., **Pedrosa-Pàmies, R.**, Weber, J.C. The climatology of the deep particle flux in the oligotrophic western North Atlantic gyre. *About to be submitted to Progress in Oceanography*.

**Pedrosa-Pàmies, R.**, Conte, M. H., Weber, J.C., Johnson, R., Foltz, G. (*in preparation*). Review: Hurricanes boost the ocean's biological carbon pump.

**Pedrosa-Pàmies, R.**, **Liu, Z.**, Bochdansky, B., Ruff, E., Gallagher, S. (*in preparation*). Microbial colonization of plastic in the deep North Atlantic: are plastics being degraded in the deep ocean?

### Book 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. (\*HERMESIONE Shipboard Scientific Party includes **Pedrosa-Pàmies, R.**).

De Mol, B., Amblas, D., Calafat, A., Canals, M., Duran, R., Lavoie, C., 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. (\*HERMESIONE Shipboard Scientific Party includes **Pedrosa-Pàmies, R.**).

### Conference, Seminars and \*Invited talks

(See below selection of the most relevant)

Schnepper, C., **Pedrosa-Pàmies, R.**, Conte, M., Gruber, N., Haghypour, N., Eglinton, T., July 2023. Seasonal variations in the bomb radiocarbon signal from sinking particulate organic carbon in the deep Sargasso Sea. Talk/Poster. GRS/GRC chemical oceanography.

Schnepper, C., **Pedrosa-Pàmies, R.**, Conte, M., Gruber, N., Haghypour, N., Eglinton, T., June 2023. Seasonal variations in the bomb radiocarbon signal from sinking particulate organic carbon in the deep Sargasso Sea. Talk. ASLO Aquatic Sciences Meeting 2023.

Joern, G., **Pedrosa-Pàmies, R.**, Bochdansky, B. Marine plastisphere biofilm community progression in a tidal sub-estuary. Poster. ASLO Aquatic Sciences Meeting 2023.

Schnepper, C., **Pedrosa-Pàmies, R.**, Conte, M., Gruber, N., Haghypour, N., Eglinton, T., September 2022. Tracing bomb radiocarbon in sinking particulate organic carbon in the deep Sargasso Sea. Talk. 24th Radiocarbon Conference.

**Pedrosa-Pàmies, R.**, Conte, M., Weber, J.C., March 2022. Impact of tropical cyclones on the ocean's biological pump. Talk. Ocean Sciences Meeting 2022 (Web Conferencing).

Conte, M., **Pedrosa-Pàmies, R.**, Weber, J.C., March 2022. Basin-scale climate forcing of carbon flux to the deep ocean. Talk. Ocean Sciences Meeting 2022 (Web Conferencing).

Joern, G., **Pedrosa-Pàmies, R.**, Bochdansky, B., March 2022. Marine plastisphere biofilm community progression in a tidal sub-estuary. Poster. Ocean Sciences Meeting 2022 (Web Conferencing).

Jiang, X., Gallagher, S., **Pedrosa-Pàmies, R.**, Ruff, E., Liu, Z., March 2022. Tracking the weathering patterns of different types of plastics under long-term UV exposure. Talk. Ocean Sciences Meeting 2022 (Web Conferencing).

- \*Pedrosa-Pamies, R.**, December 2021. Sinking marine particles and tropical storms in the North Atlantic. University of Southern Mississippi, Marine Science Seminar Series Oceans (Web Seminar).
- \*Pedrosa-Pamies, R.**, July 2021. Tropical cyclone activity and its impact on marine ecosystems. Seminar talk and discussion. University of Chicago Francis and Rose Yuen Campus Miniseries Oceans (Webinar).
- Jiang, X., Gallager, S., **Pedrosa-Pamies, R.**, Ruff, R., Bochdansky, A., Liu, Z., June 2021. Evaluation of plastic photodegradation in seawater after long time UV exposure. Talk. Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting 2021 (Web Conferencing).
- \*Pedrosa-Pamies, R.**, May 2021. Changing climate changing ocean: the impact to deep ocean communities. Talk and panel discussion. Microbiomes Across Environments, Panel Discussion for Logan Science Journalism Program.
- Pedrosa-Pamies, R.**, Parinos, C., Sanchez-Vidal, A., Calafat, A., Canals, M., Velaoras, D., Mihalopoulos, N., Kanakidou, M., Lampadariou, N., Gogou, A., April 2021. Atmospheric and oceanographic forcing impact on particle flux composition and carbon sequestration in the Eastern Mediterranean Sea: a three-year time-series study in the deep Ierapetra Basin. Talk. European Geosciences Union (EGU) General Assembly Conference (Web Conferencing).
- Pedrosa-Pamies, R.**, Parinos, C., Sanchez-Vidal, A., Calafat, A., Canals, M., Velaoras, D., Mihalopoulos, N., Kanakidou, M., Lampadariou, N., Gogou, A., October 2020. New insights into the impact of atmosphere-sea interactions on carbon sequestration in the Eastern Mediterranean Sea: a three-year time-series study in the deep Ierapetra Basin. Talk. Second Scientific Conference PANACEA (Web Conferencing).
- Tarrés, M., Cerdà-Domènech, M., Sanchez-Vidal, A., **Pedrosa-Pàmies, R.**, Rumín-Caparrós, A., Calafat, A., Canals, M., May 2020. Particle fluxes and trace metal dispersal in the Gulf of Vera, SW Mediterranean Sea. Poster. EGU General Assembly Conference (Web Conferencing).
- 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-Pamies, 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., Weber, J.C., **Pedrosa-Pàmies, R.,** February 2018. IS12A-03: The Oceanic Flux Program (OFP) time-series turns 40. 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 Irapetra 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. 3<sup>rd</sup> 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. 3<sup>rd</sup> 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. 3<sup>rd</sup> 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

**2023 Undergraduate University of Chicago / Marine Biological Laboratory: Microbiomes Across Environments.** Lecture in carbon cycle in the ocean, use of metabolomics to trace ecosystem processes, and plastic pollution in the ocean (2h)

**Undergraduate Semester in Environmental Science (Marine Biological Laboratory).** 2 Lectures about C cycle in the ocean, climate change, extreme weather events and plastic pollution." (4h).

- 2022** **Boston University- Undergraduate/Graduate Marine Biogeochemistry.** Guest Lecture about carbon cycle in the ocean, particle cycling, tropical cyclones, and lipid biomarkers as tracers for ecosystem processes (1.5h).
- 2021** **Boston University- Undergraduate Marine Biogeochemistry.** Guest Lecture in carbon cycle in the ocean, particle cycling, tropical cyclones, and lipid biomarkers as tracers for ecosystem processes (1.5h).  
**Undergraduate University of Chicago / Marine Biological Laboratory: Microbiomes Across Environments.** Lecture in carbon cycle in the ocean, lipid biomarkers as tracers for ecosystem processes, and plastic pollution in the ocean (1.5h)  
**Undergraduate Semester in Environmental Science (Marine Biological Laboratory).** Lecture "Particle cycling in the ocean: carbon cycle and extreme weather events" (1.5h).
- 2020** **Undergraduate University of Chicago / Marine Biological Laboratory: Microbiomes Across Environments.** Lecture in carbon cycle in the ocean, and lipid biomarkers as tracers for ecosystem processes (1.5h)  
**Undergraduate Semester in Environmental Science (Marine Biological Laboratory)** Webinar Lecture "A Changing Climate, A Changing Ocean" (1h) (Rut Pedrosa Pamies/ Maureen Conte).
- 2019** **Undergraduate Course University of Chicago / Marine Biological Laboratory: Microbiomes Across Environments.** Lecture in carbon cycle in the ocean, and lipid biomarkers as tracers for ecosystem processes (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, 1.5h 2015).  
Topic: "Sedimentology laboratory: techniques and instruments" (1.5h 2013-14, 1.5h 2014-15, 1.5h 2015-16).  
Lecture in Biogeochemistry.  
Topic: "Biogeochemistry of the ocean: GEOTRACES program and Ocean Data View" (TA, 1h 2015-16).
- 2009** **Bachelors Program in Environmental Science** (University of Barcelona).  
Lecture in Environmental Geochemistry  
Topic: "Analytical techniques in Sedimentology".

### Student Advising and Mentoring

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

**Master students** (University of Barcelona/ Marine Biological Laboratory)

- 2023** *Christine Martinec Vhalides.* (Master in Marine Science, Unity College) MsC thesis: "Field Guide to the Deep: Decades of Oceanic Flux Collection." Co-supervisors: Maureen Conte.
- 2016** *Jaume Serra Pareras.* (Master in Oceanography and Management of Marine Environment, Univ. of Barcelona). MsC thesis: "Comparison of particle dynamics in two submarine canyons located in the South of Spain." Co-supervisors: Antoni Calafat Frau and Aitor Rumín Caparrós.



- 2014** *Lucía Quirós Collazos*. (Master in Oceanography and Management of Marine Environment, Univ. of Barcelona). 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)

- 2023** *Lillian Cusa* (Semester in Environmental Science (SES) student, the Ecosystems Center). Project “Bioaccumulation of pharmaceutical and personal care products (PPCPs) in *Astrangia poculata* from ingested PPCP-incubated brine shrimp and microplastics”  
*Samantha Smith* (SES student, the Ecosystems Center). Project “Project Concept: Impact of Microplastics on Coral Feeding Behavior and Oxygen Consumption”. Co-supervisor: Loretta Roberson.  
*David Wang* (University of Chicago, Metcalf Undergraduate Fellow, summer 2023). Project “ Growing on Garbage: Characterizing Biofilms on Plastics in the Deep Ocean”
- 2022** *Ashley Flores* (Blue Economy Internship Program Marine Biological Laboratory/ Massachusetts Maritime Academy, Jan.-Feb 2022). “Field guide to the deep”. Co-supervisor: Maureen Conte, JC Weber.
- 2021** *Briana Stevens* (SES student, the Ecosystems Center). Project “Biofilm Formation on Five Different Plastic Types in Contrasting Environments of Siders Pond Water Column”.  
*Nora O’Keeve* (SES student, the Ecosystems Center). Project “The Abundance and Composition of Plastics Found in and Nearby Coral Ecosystems of Cape Cod”.  
*Sunniva Sheffield* (SES student, the Ecosystems Center). Project “The Interaction of Pharmaceutical & Personal Care Products (PPCPs) with Plastics & Associated Aquatic Biofilms Grown in Different Environments of Sider’s Pond, Falmouth MA”. Co-supervisor: Maureen Conte, JC Weber.  
*Alice Ball* (SES student, the Ecosystems Center). Project “Investigating Feeding Rates of the Northern Star Coral, *Astrangia poculata*, on Microplastics”. Main-supervisor: Loretta Roberson. Co-supervisors: Javier Lloret, Rut Pedrosa Pamies.  
*Sydney Russo* (SES student, the Ecosystems Center,). Project “Physiological impacts on *Astrangia poculata*: Stresses of microplastics on the Northern Star Coral”. Main-supervisor: Loretta Roberson. Co-supervisors: Javier Lloret, Rut Pedrosa Pamies.
- 2020** *Shazheb Khalib* (Blue Economy Internship Program MBL, May 2020) “Identification and characterization of Sargassum in sinking particles in the deep Sargasso Sea off Bermuda – Image Learning”. Co-supervisor: Maureen Conte, JC Weber, Abhishek Kumar, Anthony Mautino.
- 2019** *Olivia Shao* (SES student, the Ecosystems Center). Project” How does the chemistry of pharmaceuticals and personal care products (PPCPs) affect bioaccumulation in the estuarine blue mussel *Mytilus edulis*?”.  
*Miriam Ritchie* (SES student, the Ecosystems Center). Project” Do Microplastic Concentrations in Estuarine Salt Marshes Increase with Human Population Density?”.  
*Becky Hopkins* (OFF 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* (SES student, the Ecosystems Center). Project: "Plastic Marsh (The Tenacity). A look back at the varying anthropogenic impacts on estuary systems through microplastic pollution and stable isotopes".
- Casey Beidelman* (SES student, the Ecosystems Center). Project: "Plastic Beach (The Spread): Microplastic distribution and composition across the tidal range of Cape Cod beaches".
- Hector Salazar* (SES student, the Ecosystems Center). 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* (SES student, the Ecosystems Center). 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* (SES student, the Ecosystems Center). 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)
- 2023** *Peter Tryby* (Falmouth High School). Co-supervisor: JC Weber.
- 2022** *Quinn Schwefler* (Bourne High School). Co-supervisors: Maureen Conte and J.C. Weber.
- 2020** *Robert Grinnell* from Upper Cape Tech (Blue Economy Internship Program MBL, Jan-Mar 2020). "Field Guide to the Deep" guide to the deep ocean particle flux". Co-supervisor: Maureen Conte, JC Weber.
- 2018-2019** *Jack Daigneault* (Mashpee High School), *Geovanna Pereira* (Mashpee High School), and *Deshawn Adler* (Mashpee High School). Spring and summer 2018-2019. 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

- Nov 2023** *Third graders* fun facts seminar about the deep ocean (Springside Chestnut Hill Academy).
- Aug 2022** *Woods Hole Science Stroll*. Oceanic Flux Program exhibit (posters, microscope, design of a water column sedimentation prototype, slideshow, coloring pages with deep ocean particles and creatures, etc.). Design of "make your own mini-mooring 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, including young kids.

- July 2021** *Children's book* collaboration with Gregory Mone (How our planet works?). Role: interview with the writer/illustrator to help them to understand the dynamics the carbon cycle in our earth to translate it to a children's book.
- Mar 2020** *Newspaper* mini article in a local journal from the catalan city Esparreguera: Espavila "Se sumergeix al fons marí per nosaltres".
- 2019** *Book*: Contribution to middle school science textbook from Christy Peterson "Into the Deep: Science, Technology, and the Quest to Protect the Ocean" (Lerner Publications).
- Aug 2019** *Newspaper article* in the Cape Cod Times "Tackling microplastic pollution in Waquoit Bay" (by Boris Tsang).
- Aug 2018 and Aug 2019** *Woods Hole Science Stroll*. Oceanic Flux Program exhibit (posters, microscope, design of a water column sedimentation prototype, slideshow, etc.). (See above for more exhibit description).
- Feb 2018** *Women in Science*: 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](http://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 - 2022** *Volunteer*, Baywatcher for The Buzzards Bay Coalition. Collection of environmental variables and nutrient samples.
- 2017 - 2020** *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 Nights: Thinking Big & Looking Small. Oceanic Flux Program exhibit (October 2016, October 2019, November 2023).
- 2017** Marine Biological Laboratory/University of Chicago *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.