

## Stéphanie DUCHAMP-ALPHONSE

Research scientist at GEOscience Paris Sud (GEOPS) and Lecturer in the Earth Science Department of Paris Sud University

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### **RESEARCH INTERESTS:**

Paleoceanography and marine geology – Ecology and evolution of the calcareous phytoplankton and its relationships to climate changes, especially its contribution to the Biological Carbon Pump and its impact on the carbon cycle in the past.

### **EDUCATION AND PROFESSIONAL EXPERIENCE:**

Since 2018: Ability to supervise scientific research (French Diploma “HDR”) – Paris Saclay Univ.  
Since 2008: Research scientist and Lecturer – Paris Saclay Univ.  
2007-2008: Geologist at Neflex (now Halliburton), Abingdon, Oxfordshire, United Kingdom  
2005-2007: Teaching and Research Associate, GEOPS – Paris Sud Univ.  
2006: PhD in Environnemental Sciences – Paris Sud Univ.  
2002 : Master in Environnemental Sciences – Paris Sud Univ.  
2000 : Graduate in Biological Sciences – Jean Monnet Univ (St-Etienne)

### **TEACHING AND LABORATORY RESPONSABILITIES**

Since 2020: Referee contact for International Relations in Earth Science of Paris Saclay Univ.  
Since 2018: Head of “L2” (2<sup>nd</sup> year of the French Undergraduate Education System) in Earth Science, Paris Saclay Univ.  
Since 2011: Member of the Labex-IPSL Palaeoclimate Work Package  
2016-2018: Co-Coordinator of the Large Project 1 (LP1 Abrupt and large climate variability) of the Labex-IPSL Scientific Committee  
Since 2013: Elected member of the Earth Science Department Council – Paris Saclay Univ.  
Since 2012: Jury of 4 PhD defenses and 5 lecturer selection committees  
Since 2010: Manager of the SYRACO (Système de Reconnaissance Automatique des Coccolithes) /Automated microscope system at GEOPS  
Since 2010: Elected member of the GEOPS Specialist Committee – Paris Saclay Univ.

### **SYNERGISTIC RESEARCH ACTIVITIES**

- PI of 4 integrative projects (2 INSU, 1 Labex IPSL, 1 Paris Saclay Univ.), participation to ANR, IODP, INSU, UNESCO projects.
- Reviewer for G3, Palaeo3, Cretaceous Research, Geological Magazine.
- Referee for projects: ANR (AAP ACHN) and IFREMER.
- Co-organizer of national conferences: ASF and “Journées Climat et Impacts”
- Seagoing experiences: N/O l'Atalante, MINGULAY-ROCKALL Cruise, North Atlantic (hydrology, coring, June 2016) and N/O Marion Dufresne, MONOPOL Cruise, Bay of Bengal (hydrology, coring, June/July 2012).

### **Recent/current scientific grants and projects:**

- INSU-LEFE-IMAGO: BIOCOD (BIological productivity changes and their leverage on the Carbon and Oxygen cycles during the last Deglaciations »), Coordinator (2019-2021).
- IPSL Scientific Project (Major changes in the biosphere productivity over the last deglaciations and their impacts on C and Oxygen cycles), Coordinator (2019).

- SPU Emergence: BIOlogical productivity changes and their leverage on the Carbon and Oxygen cycles during the last Deglaciations, Coordinator (2018).
- AO IODP France – Dynamics of the Pacific Antarctic Circumpolar Current (Exp. 383) – Coordinator: E. Michel (2019-2021).
- INSU-LEFE-IMAGO: SEPORA (South-East Pacific Ocean Reservoir Age since the LGM). Coordinator: G. Siani (GEOPS) (2017-2019)
- DIPOMO USS Oceanographic Mission (DIPole Indian/Monsoon)– Coordinator: F. Bassinot (LSCE) (2018-2020) schedule in June/August 2020.
- AMARYLLIS Oceanographic Mission (From AMAZon sediments to natural climate vARIability and sLope instabiLities processes) – Coordinator: A. Govin (LSCE) (2018-2020)

## **PUBLICATIONS**

- 24 publications in peer reviewed journal (e.g. Nat. Com., ESR, Sci. Reports, Clim. Past, EPSL, QSR, G3, Palaeo3, Mar. Micropal. GSA, Quat. Internat., Cret. Res.)
- 27 international conference abstracts

### **5 major publications in the last 2 years** (supervised students are underlined):

- Brandon, M., Landais, A., Duchamp-Alphonse S., Favre, V., Schmitz, L., Abrial, H., Prié, F., Extier, T., Blunier, T., (2020). Exceptionally high biosphere productivity at the beginning of Marine Isotopic Stage 11. Nature Communications 11, 2112, (doi:10.1038/s41467-020-15739-2).
- Zhou, X., Duchamp-Alphonse S., Kageyama, M., Bassinot, F., Beaufort, L., Colin, C., (2020). Dynamics of primary productivity in the northeastern Bay of Bengal over the last 26,000 years. Climate of the Past, 16, 1969-1986, doi: 10.5194/cp-16-1969-2020.
- Charbonnier, G., Duchamp-Alphonse, S., Deconinck, J.F., Adatte, T., Spangenberg, J.E., Colin, C., Föllmi, K. (2020). A global palaeoclimatic reconstruction for the Valanginian based on clay mineralogical and geochemical data. Earth Science Reviews, 202, doi: 10.1016/j.earscirev.2020.103092.
- **Duchamp-Alphonse, S.,** Siani, G., **Michel, E.,** Beaufort, L., Gally, Y., **Jaccard, S.L.** Enhanced ocean-atmosphere carbon partitioning via the carbonate counter pump during the last deglacial. Nature Communications 9, doi: 10.1038/s41467-018-04625-7.
- Haddam, N.A., Siani, G., **Michel, E.,** Lamy, F., **Duchamp-Alphonse, S.,** Hefter, J., Braconnot, P., Dewilde, F., **Isgüder, G.,** Durand, N., Kissel, C. Changes in latitudinal sea surface temperature gradients along the Southern Chilean margin since the last glacial. Quaternary Science Reviews 194, 62-76. doi: 10.1016/j.quascirev.2018.06.023

## **TEACHING AND SUPERVISING EXPERIENCE:**

- Teaching: 200-240 h a year for Bachelor and Master students from Earth Science and Biology Departments – Paris Saclay University (Main topics: Paleontology, Sedimentology, Palaeoenvironments and Palaeoclimates)
- Responsible for 5 Teaching Units (including a fieldtrip)
- Supervision: 4 PhD students, 18 Master students