



## **MiniFluo fluorescence sensor, advances in FDOM Ocean Measurements**

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As part of the European project "Next generation Low-Cost Multifunctional Web Enabled Ocean Sensor Systems Empowering Marine, Maritime and Fisheries Management (NeXOS)", we developed the MiniFluo, a glider-compatible optical sensor for measurements of fluorescent dissolved organic matter (FDOM). In situ applications of the MiniFluo are presented here. The configuration used targets both natural (Tryptophan) and an anthropogenic (Phenanthrene) DOM fluorophores. Observations from three glider campaigns in the NW Mediterranean (Fall 2015 and Spring and Summer 2016) are presented. It is shown that the use of the MiniFluo highlights new features of DOM dynamics in the region. For example, the Tryptophan (an amino-acid traditionally used as a tracer for waste waters) is found here closely related to open sea Chl-a fluorescence. Differences between Chl-a and Tryptophan fluorescence also give subtle information on seasonal changes in ecosystem structure and DOM release that could not be observed with traditional glider measurements. The study also highlights the presence of phenanthrene (an anthropogenic polycyclic aromatic hydrocarbon (PAH) in the surface and sub-surface waters of the Mediterranean. Implications of these findings will be put in the context of both the Mediterranean Sea DOM dynamics and also the ocean carbon cycle, from which the Dissolved Organic Carbon pool remains qualitatively unknown.