UNIVERSITA' DEGLI STUDI DI PADOVA
DIPARTIMENTO DI GEOSCIENZE
Via Gradenigo 6
35131 Padova
www.geoscienze.unipd.it

DIPARTIMENTO DI GEOSCIENZE

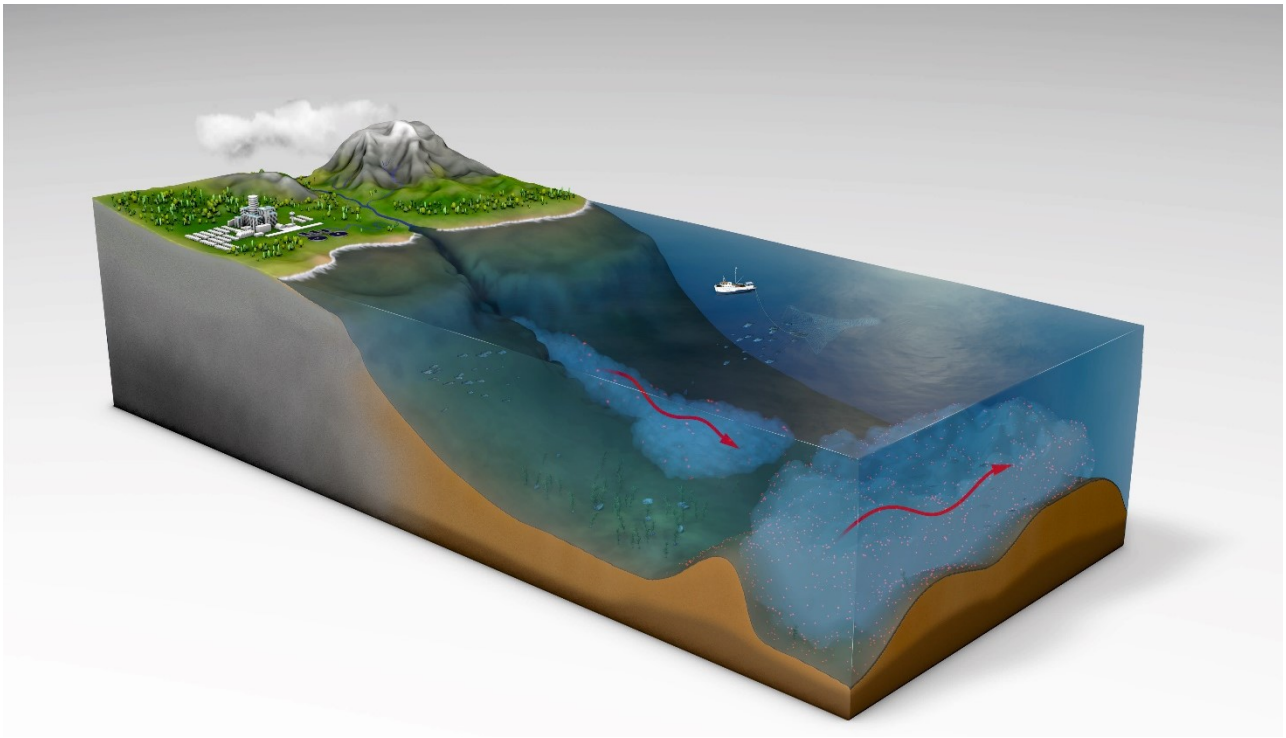
Microplastics in deep-marine sedimentary environments

Thursday, 17 December 2020 – 16:30

"Live" seminar on-line at Zoom link:
https://unipd.zoom.us/j/82978693795?pwd=TmlBSDBVRFVNL3NwTUpGSW8rWFdpQT09

Speaker: **Dr. Ian Kane**

Department of Earth and Environmental Sciences – University of Manchester



Abstract

Microplastics are anthropogenic sedimentary particles which pollute the natural environment. Recent studies have found microplastics at high altitudes, delivered as wind-blown dust, in river systems, in lakes, in coastal areas, on the sea surface, in sea ice, suspended in the oceanic water column, and on the deep seafloor. Factors which influence microplastic distribution in sedimentary environments include their availability, density, shape and longevity. Microplastic density ranges from lower than that of water, to nearing that of quartz, and they have a wider range of shapes and surface areas than most naturally-occurring detrital minerals. Due to their unique properties, the distribution of microplastics within geophysical flows and their deposits may differ to that of natural mineral particles. Based on a number of case studies and methods we will explore the transport of microplastics from source, via river systems and estuaries, through shallow marine environments and into deep-water. We will then focus on the deep-marine 'sink', and demonstrate the important role of gravity-driven and thermohaline flows in distributing microplastics and concentrating them in certain environments. Using this analysis we identify global challenges in understanding microplastic distribution and fate, and how this information can be used in conjunction with mitigation efforts to address the environmental microplastic challenge.

Proposer: **Prof. Massimiliano Ghinassi**