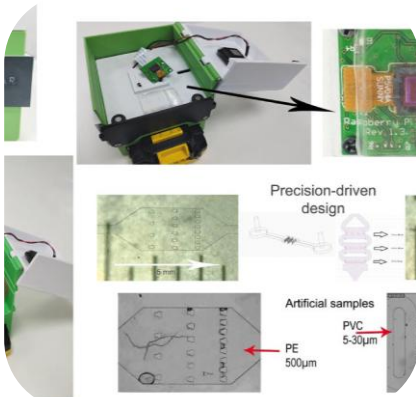


SEMMIoTicAR

PORTABLE MICROFLUIDIC SENSOR FOR ENVIRONMENTAL MICROPLASTICS IOT MONITORING



KEY WORDS

MICROPLASTICS,
MICROFLUIDICS,
SENSORS

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DESCRIPTION

SEMMIoTicAR is a scientific-technology solution to a socio-environmental problem: pollution by MP. It involves the design and manufacture of a portable microfluidic device to detect and trap MP in situ, coupled with an impedance sensor and a CMOS image photosensor that will enable low-cost detection and real-time monitoring (IoT communication).

POTENTIAL BENEFITS OR IMPACTS

The 90% of produced plastics cause permanent environmental pollution when they are broken into sizes between 1 µm and 5 mm, into microplastics (MP). The equipment needed to detect and quantify MP is expensive and unsuitable for field sampling. SEMMIoTicAR enables the systematic detection of MP in situ.

TECHNOLOGY READINESS LEVEL (TRL)

TRL 4: Laboratory validation.

APPLICATION AREAS

Health
Chemistry
Environment
Industry