

## Flow-based systems with solid-phase extraction to tackle the challenges of metal ions determination in recreational waters

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The social-economic importance of recreational waters, as leisure, touristic and commercial areas, is vital to coastal countries like Portugal. In this scenario, we started to develop analytical methods to tackle the problematic of monitoring persistent pollutants in recreational waters (maritime, fluvial ports and beaches). The major analytical challenges are due to the low analytes concentration, space and time variability of the matrix composition and salinity interference. To approach this problem, we are devising flow-based systems incorporating different sorbent materials to achieve both analyte enrichment and sample clean-up.

In this communication, we focus on some methods developed for the quantification of metal ions in saline samples. Flow-based systems were developed for the determination of copper, zinc, and iron; different solid interfaces (Chelex-100, NTA, polymer inclusion membranes) were employed for retaining/separating the target species. Detection was achieved using miniaturized CCD detectors and fiber optics technology.

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