

**BOOK OF ABSTRACTS**

# **FLOW ANALYSIS XV**

**KRAKOW, POLAND 2022**



**JUNE 26 – JULY 1**

CO-FINANCING



Ministry of Education  
and Science

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**EuChemS**  
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## Use of dimethylglyoxime as a chromogenic agent in a flow-based system for the determination of Ni(II) in recreational water

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Nickel occurs ubiquitously and naturally in the environment (soil, water, and air). Nickel is considered to be an attractive metal with several applications and is widely used in the industry. As a consequence, it can be easily released into the environment, reaching waters sources and the soil [1]. Most of the methods for its determination are based on atomic absorption or emission spectrometry. In this scenario, an alternative spectrophotometric-based method for the determination of nickel in recreational water was developed. The strategy was to devise a miniaturized and automatic system based on sequential injection analysis, intending to achieve an expeditious, real-time, and low-cost method. For the spectrophotometric determination, a reagent with associated selectivity for nickel determination was employed, the dimethylglyoxime. Additionally, considering the expected low levels of nickel in recreational waters, with a maximum concentration of  $100 \mu\text{g L}^{-1}$ , a liquid waveguide capillary flow cell (LWCC), with 100 cm optical pathlength, was used to improve the sensitivity and the limit of detection of the method.

### References

[1] M. Fay, S. Wilbur, H Abadin, Toxicological profile of nickel, ATSDR, 2005.

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