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Open Position (MSc, Eng. or Post-doc) at DEEP, INSA Lyon

Position open in 2018 for a graduated Master of Science, a graduated engineer or a post-doc

Context: the SMILE project

The FUI 17 French collaborative R&D project SMILE gathers 10 partners (5 SMEs, 3 research institutions, the Greater Lyon Water Department and one sub-contractor). SMILE aims to develop, test and validate a new multi-parameters on-line monitoring station for urban water quality assessment (wastewater, stormwater, surface water). The station includes innovative sensors for online measurements of turbidity, BOD, chemical compounds (nitrite, nitrate, ammonia, phosphate, hydrogen sulfide, hydrocarbons, four metals) and ecotoxicity, coupled to a dedicated software for real time online data validation and uncertainty assessment. Additional sensors available on the market can be added to the SMILE monitoring station (pH, conductivity, flow rate, etc.). The station should be compact (100 x 100 x 50 cm), with a competitive cost, no (or very limited) reagents, low energy consumption, integrated and multivariate on-line data validation allowing real time decision making. SMILE started in October 2014 and will end in the first semester of 2018.

Within Task 6 of the project (software tools), the laboratory DEEP at INSA Lyon is responsible for the development of methods, algorithms and expert rules to be implemented in the SMILE software tool for real time data validation, sensor calibration and uncertainty assessment, in close collaboration with Alison (informatics SME in charge of the software tool delivery).

Activities / tasks:

The first prototypes of the monitoring station are now implemented and first data sets are delivered. The position will include the following main activities and tasks, based on previous achievements: i) development, test, comparison and validation of methods / algorithms for on-line real time data validation (at both univariate

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Lyon 1

sensor level and multivariate monitoring station level), sensor calibration and uncertainty assessment, adapted to each sensor, ii) coding methods and algorithms with Matlab, iii) close collaboration with both the project partners developing new sensors and the partners testing in lab and filed conditions the monitoring station, and with Alison.

Candidates with experiences in water quality monitoring, <u>data validation, uncertainty assessment, data or signal processing will be particularly appreciated</u>.

<u>Skills in programming is required</u>, preferably with Matlab®.

Location: Laboratory DEEP at INSA Lyon, in Villeurbanne, France. Some travels and short periods of work in Meylan (near Grenoble) by Hemera, one the SMEs of the project.

Working language: English and French.

Contract duration: 5 months

Contract expected starting date: February 2018

Diploma: MSc degree, Engineer Degree, PhD thesis

Deadline: Applications close on 31 January 2018

Contact for more information:
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