



**HZDR**

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## First announcement

European workshop on

# Instrumentation for the Safety of Liquid Metal Facilities

Helmholtz-Zentrum Dresden-Rossendorf (HZDR)

Dresden, Germany, April 10-12, 2019



## Objectives of the Workshop

The Workshop is organized in the framework of the ESFR-SMART project, and it is dedicated to topics covering coolant technology, facility design, data analysis and code validation with respect to the 4th Generation ESNII fast reactor demonstrators cooled with liquid metals. A special focus will be on sodium, but other liquid metals (lead, lead-bismuth, etc.) will also be addressed.

## General context

The safe operation of liquid metal cooled fast reactors requires the availability of powerful and reliable diagnostic techniques for a continuous monitoring of the operational status of the reactor and for performing periodic inspections. These requirements will be presented.

Diverse instrumentation techniques are currently developed to control the temperature, the flow field, the coolant purity, to detect leakages and void fractions in the liquid due to the presence of micro-bubbles, or to verify the integrity of the construction. The workshop will present these instrumentation techniques, their implementation and associated constraints, calibration methodologies, signal processing methods for liquid metal flows. Visits of the HZDR laboratories will be organized during this workshop.

## To whom it is addressed

The Workshop aims at providing a platform for discussing and exchanging ideas between students, young professionals and specialists involved in R&D or design activities. Participants from regulatory authorities, as well as from their scientific and technical support organizations, research institutes and consulting companies are welcome. The workshop language will be English.

## Topics

- |  |                                 |
|--|---------------------------------|
| 1) Flow measurements                                       | 6) In-service inspection        |
| 2) Gas detection   | 7) Na quality control           |
| 3) Coolant from Energy Conversion system ingress detection | 8) Nuclear instrumentation      |
| 4) Leakage detection                                       | 9) Data processing              |
| 5) Level detection   | 10) Simulations and validations |

## Venue

The workshop will be held at the Helmholtz-Zentrum Dresden - Rossendorf (HZDR, Bautzner Landstrasse 400, 01328 Dresden, Germany). A conference shuttle bus between Dresden and the HZDR campus will be organized. Further information, including hotel accommodation and transport can be found on the workshop website [www.hzdr.de/wislmf2019](http://www.hzdr.de/wislmf2019).

## Special program for PhD students

PhD students will have the chance to gain experience in the handling of measurement techniques for liquid metals like UDV or inductive methods, as well as in performing numerical simulations of velocity/ flow rate sensors with COMSOL Multiphysics.

## Fees

The workshop is free of charge for members of ESFR-SMART.

## Contact information & Registration

To apply for registration please fill out the registration form, which can be downloaded from the website, before **March 8, 2019** and send it to: [wislmf2019@hzdr.de](mailto:wislmf2019@hzdr.de). Questions related to the workshop should be addressed to [wislmf2019@hzdr.de](mailto:wislmf2019@hzdr.de) or to one of the workshop committee members.

## Workshop organizing committee:

Thomas Wondrak, [t.wondrak@hzdr.de](mailto:t.wondrak@hzdr.de), Nico Krauter, [n.krauter@hzdr.de](mailto:n.krauter@hzdr.de), Sven Eckert, [s.eckert@hzdr.de](mailto:s.eckert@hzdr.de), Christian Latgé, [Christian.latge@cea.fr](mailto:Christian.latge@cea.fr)