



## Registration

For registration please fill in the registration form. Deadline for registering is 15 April 2017. There is no registration fee associated to the training.

### Contact & Registration

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## Venue

The training will be held at the premises of VSL, which is located in Delft, the Netherlands. Directions on how to reach VSL can be found at [www.vsl.nl/en/route-description](http://www.vsl.nl/en/route-description).

The training is scheduled the day before the start of GAS 2017 in Rotterdam, only 15 km away from Delft ([www.gasanalysisevent.com/](http://www.gasanalysisevent.com/)).



**EMPIR**



**EURAMET**

The EMPIR initiative is co-funded by the European Union's Horizon 2020 research and innovation programme and the EMPIR Participating States

# Zero Gas Hands-on training

**VSL**

**12 June 2017, 10 – 16h**

## Zero Gas project

Zero Gas is the EMPIR Support for Impact project that builds on the results of MACPoll. It started on the 1<sup>st</sup> of June 2016 and it will run for two years.

This project aims at delivering a written standard to certify the purity of zero gases. The quality of zero gas, typically nitrogen and clean dry air, needs to be measured for the preparation of gas standards and to comply with EU regulations in air quality monitoring.

The project partners, VSL and FMI, will be working in close collaboration with ISO/TC158, the technical committee dealing with gas analysis, and with AQUILA, the European Network of Air Quality Reference Laboratories.

More information on both Zero Gas and MACPoll is available on the website [www.MACPoll.eu](http://www.MACPoll.eu).

## Hands-on training

The aim of this training is to facilitate the uptake and correct use of the Certification Protocol for Zero Gas and therefore of the documentary standard ISO 19229 (under revision) among end users such as gas producers and manufacturers of gas purification systems.

The training will include theoretical, hands-on laboratory and data handling sessions.

## Programme

09:30	Registration	13:00	Hands-on training at VSL laboratories 2, <i>I. de Krom (VSL), S. Persijn (VSL), S. Bartlett (NPL)</i>
10:00	Introduction to ISO 19229 and Certification Protocol for Zero Gas, <i>G. Nieuwenkamp (VSL)</i>	13:45	Zero gas standards in Air Quality measurements, <i>J. Walden (FMI)</i>
10:30	Hands-on training at VSL laboratories 1, <i>I. de Krom (VSL), S. Persijn (VSL), S. Bartlett (NPL)</i>	14:10	Data handling of the purity measurements, <i>A.v.d. Veen (VSL)</i>
11:15	Assessment of the impurities in Zero Gases with instruments having a defined and not-defined zero, <i>G. Nieuwenkamp (VSL)</i>	15:10	Coffee break
12:15	Lunch	15:30	Discussion and Conclusions, <i>A. Baldan (VSL)</i>

