



National  
Metrology  
Institute

## Workshop on generation and handling of reactive gases

13<sup>th</sup> April 2021

**Hosts: Stefan Persijn (VSL) and Tuomas Hieta (Gasera)**

**Locations** MS TEAMS Meeting (link to be circulated before the workshop)  
Please register by **31<sup>st</sup> March 2021**

**Time zone** CEST (Central European Summer Time)

Preliminary programme (talks include 5-minute questions)

10:00 *Arrival and microphone check*

10:10 *'Welcome'* Tuomas Hieta, Gasera

### Introduction

10:20 *"Introduction to the metrology of reactive gases"* Stefan Persijn, VSL

### Gas standards for reactive gases

10:50 *'HovaCAL® - a potential method for for dynamic generation of AMCs gas standards'* Martin Schmäh, IAS GmbH

11:15 *'Static and dynamic preparation of HCl and HF gas standards'*  
Heleen Meuzelaar, VSL

11:40 *'Optical Gas Standards (OGS): a new route to traceable gas analysis'*  
Zhechao Qu and Olav Werhahn, PTB

12:05 40-minute lunch break

12:45 *"Advances in trace HCl reference material production: towards the nmol/mol level"* Michael Ward and Yoana Hristova, NPL

### Dynamic dilution methods and sampling of reactive gases

13:15 *'Advantages and drawbacks of different dynamic dilution methods (Sonic Nozzles, MassFlow controller, permeation)'* Daniel Calabrese, LNI Swissgas

13:40 '*CVD silicon coatings from SilcoTek for inert surfaces*' Johannes Kütt,  
Silcotek

14:05 *Closing Remarks*