

## **VSL Training: Calibration of liquid flow meters (in Flow Center of Excellence, Dordrecht)**

### **Tuesday 21 May 2019**

<b>Subject</b>	<b>From</b>	<b>To</b>
Introduction VSL, trainers and participants	8:30	9:15
Traceability and international measurement infrastructure	9:20	10:05
<b>Coffee break</b>	<b>10:05</b>	<b>10:25</b>
Liquid flow measurement and calibration	10:25	11:10
Different type of liquid flow meters and test facilities. Selecting the correct calibration for a liquid flow meter principle.	11:15	12:00
<b>Lunch</b>	<b>12:00</b>	<b>13:00</b>
Fluid dynamics 1: Flow profile, Reynolds number, viscosity, density, temperature etc	13:00	13:45
Calibration 1: Gravimetric method (weighing)	13:50	14:35
<b>Coffee break</b>	<b>14:35</b>	<b>14:55</b>
Fluid dynamics 2: Flow profile, Reynolds number, viscosity, density, temperature etc	14:55	15:40
Reflection on the first day, Q&A session	15:40	16:00

### **Wednesday 22 May 2019**

<b>Subject</b>	<b>From</b>	<b>To</b>
Calibration 2: Pipe prover method (including compact prover)	8:30	9:15
Meter types 1: PD, Turbine, EMF	9:20	10:05
<b>Coffee break</b>	<b>10:05</b>	<b>10:25</b>
Calibration 3: Master meter method	10:25	11:10
Meter types 2: Coriolis mass flow, Ultrasonic, other	11:15	12:00
<b>Lunch</b>	<b>12:00</b>	<b>13:00</b>
Practice Pipe prover and master meter methods (perform a calibration in the laboratory)	13:00	15:30
Reflection on the second day, Q&A session	15:30	16:00

### **Thursday 23 May 2019**

<b>Subject</b>	<b>From</b>	<b>To</b>
Calibration 4: Prover tank method	8:30	9:15
International norms, international working groups	9:20	10:05
<b>Coffee break</b>	<b>10 :05</b>	<b>10 :25</b>
Calibration 5: Tower method (2 different methods)	10:25	11:10
(International) comparison between NMI's and commercial laboratories	11:15	12:00
<b>Lunch</b>	<b>12:00</b>	<b>13:00</b>
Practice Gravimetric and Prover tank methods (perform a calibration in the laboratory)	13:00	15:00
Reflection on the third day, Q&A session	15:00	15:30
Filling in of evaluation form and presentation of training certificate	15:30	16:00