



# World Metrology Day

Tuesday 22nd May 2018 9am-6pm

Alan MacDiarmid Centre

Callaghan Innovation, 69 Gracefield Road, Lower Hutt

## Detailed Programme



World Metrology Day is an annual celebration to mark the signing of the Metre Convention in 1875, which set the framework for global collaboration in the science of measurement.

Metrology, the science of measurement, plays a central role in scientific discovery and innovation, industrial manufacturing and international trade, in improving the quality of life and in protecting the global environment.

The theme for World Metrology Day 2018 is **Constant evolution of the International System of Units**. This theme was chosen because in November 2018, the General Conference on Weights and Measures is expected to agree one of the largest changes to the International System of Units (the SI) since its inception. The proposed changes are based on the results of research into new measurement methods that have used quantum phenomena as the basis for standards that are fundamental. The SI will be based on a set of definitions each linked to the laws of physics and have the advantage of being able to embrace further improvements in measurement science and technology to meet the needs of future users for many years to come.

The Measurement Standards Laboratory and Metrology Society of Australasia welcome you to join us celebrate and acknowledge the commitment to this agreement.

Time	Speaker	Title	Overview
9:00 - 9:15	Registration, Tea and coffee		
9:15	Fleur Francois, Director, MSL	Welcome and Opening	
9:20	Cynthia Lendrum, MSL	Tour of new MSL Website	Overview of Measurement Standards Laboratory's new website
9:30	Stephen O'Brien, Trading Standards	Tour of APMP / AMPLF website	Overview of the new Asia Pacific Metrology web portal
9:45	Murray Early, MSL	Redefinition of the SI for 21st Century Measurement	The International System of Units (the SI) is due to be overhauled in May 2019 to support the ever-increasing accuracy requirements of science, industry and public good. The revised SI will be based on a set

			of seven defining constants and while the immediate consequences of the change will be small, this is a profound renovation of the system that will underpin measurements of the future.
10:15	Chris Sutton, MSL	The MSL Kibble Balance, what is it for?	A Kibble balance will be the new instrument used for realising the kilogram and MSL is building one with a twist. A presentation that will highlight how it will work, why ours is different and it's potential.
<b>10:35</b>	<b>Morning Tea – Cutting the Metrology Cake</b>		
11:00	Rod White, MSL	Defining the Kelvin in terms of the Boltzmann constant	In 2019, the kelvin is to be defined by fixing the value of the Boltzmann constant. This talk will briefly describe what temperature is, some of the problems with the old definition based on the triple point of water, and some of the recent experiments used to determine the value of the Boltzmann constant.
11:20	Claire Jongenelen, IANZ	<u>Workshop</u> : A discussion on the changes in ISO/IEC 17025:2017	A systematic look at the changes from the 2005 version and what they might mean for your laboratory's quality management system.
12:00	Kevin Gudmundsson	Interactive session - how best to educate and promote NZ about the redefinition of the SI system	An overview of MSL's stakeholder engagement plan for the redefinition of the SI system, which is due for adoption in May 2019. There will be an opportunity for attendees to provide suggestions and comments on how best to recognise and promote this major event.
<b>12:20</b>	<b>Lunch</b>		
13:30	Claire Jongenelen, IANZ and Laurie Christian, MSL	Burden or boon- getting the most of out of your IANZ assessment	Claire Jongenelen and Laurie Christian will give pointers on how to really benefit from your IANZ assessment. Both presenters have been on both sides of the assessment process, Claire with her previous roles in accredited laboratories and Laurie as an IANZ Signatory at MSL with many years' experience of working in an ISO17025 accredited laboratory and through being routinely contracted by IANZ as a technical expert. The goal of their presentation is to help you and your calibration team look forward to the assessment because of the valuable outcomes it achieves for all staff involved.
14:30	Eleanor Howick, MSL	Developing and validating technical methods	Eleanor Howick will look at what needs to be in a laboratory-developed technical method, or measurement procedure. How to verify the method is suitable and what needs to be done to validate it for use.
15:20	Chris Young, MSL	Determining calibration intervals and tracking the performance of your instrument or artefact	Chris Young will discuss the factors to consider when determining recalibration intervals along with providing suitable methods for tracking the performance of calibrated instruments or artefacts.
<b>16:00</b>	<b>MSA NETWORKING – Drinks and Nibbles</b>		
	<b>Attendee Spotlight</b> – check into our video/display corner to tell us why Traceable Measurement is important.	<b>Tour</b> – visit Callaghan Innovation's Add Lab. A High-tech 3D design and manufacturing facility.	<b>Ask the experts</b> – MSL scientists are there to answer your questions or provide a peak into their labs.

MSA Members/students \$20, Non-members \$68

[Register your attendance at this event now](#)