



# REDEFINING HOW WE MEASURE OUR WORLD



## SI Roadshow Hamilton Programme

Thursday 4<sup>th</sup> April, 2:30 pm - 5:30 pm

Waikato Innovation Park Conference Centre, 9 Melody Lane, Hamilton East

2:30 pm	<b>Arrival Tea and Coffee</b>
3:00 pm	<b>Welcome and Opening</b>  Presenter: <b>Kevin Gudmundsson</b> , Manager Mass and Length Quantities, Measurement Standards Laboratory of New Zealand
3:10 pm	<b>Cheese, Platinum, and Fundamental Constants – what is the SI revision all about?</b>  <i>Worldwide agreement on units of measurement has brought us freedom to trade and innovate as well as supported improved wellbeing and trust. So why are we changing things up now and what does the revision of the International System of units promise for the future?</i>  Presenters: <b>Dr Annette Koo and Dr Rebecca Hawke</b>
3:50 pm	<b>Measuring small distances with X-ray diffraction</b>  <i>Chemistry can be considered on two different scales. First, at a very small scale, molecules react with other molecules to form more molecules. But, on a laboratory-scale, many grams of one chemical might react with many grams of another to form many grams of a product. Bridging the two scales involves counting molecules, or atoms. One can do this by comparing the volume of a crystal with the volume taken up by one atom in the crystal. X-ray diffraction allows very precise measurement of crystal structures and distances, and thus volumes within a crystal. In this talk we will consider how this is done and highlight some exciting areas of science where high accuracy X-ray diffraction leads to novel applications and measurements.</i>  Presenter: <b>Professor Marcus Wilson, Waikato University</b>
4:10 pm	<b>Measurement for Bees</b>  <i>ModuSense has a goal within the Apiculture industry to help bee keepers better understand their hives, the site they're in and how the bees themselves are performing. The end result being an increase in productivity through higher yields, reduced loss and fewer visits. This talk will look at the telemetry gathering devices built to withstand the conditions being used both inside the hives and within the apiary site. Measurement data collected is then analysed to produce insights to support bee keepers with operational decisions.</i>  Presenter: <b>Bruce Trevarthen, Founder and CEO</b>
4:30 – 5:30 pm	<b>Networking hour hosted by the Metrology Society of Australasia</b>

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