

# XRD hands on learning: Better data quality, analysis & interpretation 14-15 May 2019, UNSW



X-ray diffraction has undoubtedly been integral towards materials science research. We want to gather the XRD community to share knowledge and gain ideas on how to improve materials research. For the upcoming series of Malvern Panalytical's XRD workshops across the Asia Pacific region, we have invited our leading application specialist, Dr Olga Narygina, to share her knowledge.

Olga was previously the Application Specialist in our Supply Centre in the Netherlands, and has recently moved to Brisbane, Australia. Her specialization is in powder X-ray diffraction at ambient and non-ambient conditions. Alongside esteemed researchers from the University of Queensland, she will take you through basics of X-ray diffraction for the analysis of geological and synthetic materials and present various examples of cutting-edge *in operando/ in situ* research.

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## What you learn at the workshop

- XRD research applications
- Operate our tabletop XRD
- Tips on good sample prep
- Improve phase ID & other advanced powder XRD analysis

**Tues 14 May :**  
**Basics to powder XRD**

**Wed 15 May :**  
**Advanced analysis of powder XRD**

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## Programme

Apart from useful applications sharing, look out for an interactive day for hands-on learning. Try your hand at operating our latest powder X-ray diffractometer, Aeris as well as Highscore software. Improve the way you analyse and interpret your data. Spaces are limited. Morning tea will be provided. Please register through both links below to attend on Tuesday and Wednesday.

For the HighScore software hands on session, each participant will be given a complimentary demo license. Please bring along your own laptop to download. MAC laptops are not supported.

**Register Now :**

**May 14 - [bit.ly/2UzTErm](http://bit.ly/2UzTErm)**

**May 15 - [bit.ly/2GCMRcX](http://bit.ly/2GCMRcX)**

### 14<sup>th</sup> May, Tuesday - Basics to powder XRD

Time and Location	Details
9.00 – 10.00 am Chemical Science Building F10 Room G37	Powder XRD for characterization of various material types
10.00 – 10.30 am Chemical Science Building F10 Room G37	Introduction to Mark Wainwright Analytical Lab's XRD diffraction facilities
10.30 – 10.45 am	Coffee / Tea break
10.45 am – 12.30 pm Chemical Science building F10 Room G65	Basic powder XRD hands-on session using Aeris tabletop diffractometer: <ul style="list-style-type: none"><li>- Learn how to avoid sample prep pitfalls, ensure optimized measurement conditions and good data quality</li><li>- Learn how to perform phase ID using HighScore software</li></ul>

### 15<sup>th</sup> May, Wednesday - Advanced analysis of powder XRD

Time and Location	Details
9.00 – 10.30 am Chemical Science building F10 Room G37	Advanced analysis and data interpretation using HighScore plus: <ul style="list-style-type: none"><li>- analysis of large data sets (data clustering and phase quantification)</li><li>- extracting hidden properties, using Partial Least Square Regression (PLSR) method</li></ul>
10.30 – 10.45 am	Coffee / Tea Break
10.45 – 12.30 pm Chemical Science building F10 Room G65	Powder XRD hands-on session using Aeris tabletop diffractometer: <ul style="list-style-type: none"><li>- Learn how to avoid sample prep pitfalls, ensure optimized measurement conditions and good data quality</li><li>- Practice using HighScore software for data analysis of samples run on the Aeris</li></ul>