

# Monash Centre for Electron Microscopy Seminar

## **EBSD from pattern generation to in-situ measurements**



Friday 22 September, 2017



3.00PM – 4.00PM



Science Lecture Theatre S13  
11 Rainforest Walk, Monash Clayton Campus



Presenter

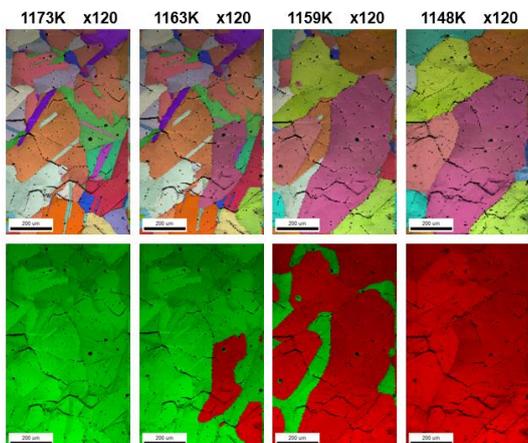
**DR. RENÉ DE KLOE,**

**APPLICATIONS  
SPECIALIST, EDAX**

### Abstract

Electron backscatter diffraction has become an indispensable technique to study the structure of crystalline materials. Over the years EBSD systems have become more and more automated and when you have a good sample, collecting good data is easy. But what to do when your sample is not ideal and getting good patterns cannot be taken for granted? In cases like that it helps if you can tweak the system to get the best possible signal and band detection as to allow you to still get some usable data from your sample.

The good news is that even when you can only just spot a very faint pattern, the system can already analyse it for you. But where exactly do these patterns come from? Does it matter what material I am measuring and how I mount the sample? And is the lateral resolution in your scan data due to the steep tilt really different horizontally and vertically? In this seminar, I will try to discuss the parameters that govern pattern generation and detection and show examples of analyses ranging from low to high magnification and high temperature in-situ experiments.



*Sequence of EBSD maps showing the austenite-ferrite phase transformation during in-situ cooling*

### About the Presenter

René has been working as applications specialist for EBSD and later also EDS at the EDAX European support office in Tilburg, The Netherlands since 2001. His focus is on instrument demonstrations, conference and workshop presentations, and after-sales customer support. This includes (on-site) training courses, assistance with analytical problems, and scientific collaborations. Although focused on Europe, his work has brought him to customers and conferences all over the world. As he has always been fascinated by the physical world around him, René has chosen to study structural geology at Utrecht University with specialization in materials science from a geological perspective. This background in geology gives him a slightly different view on materials research, which has proven invaluable over the years at EDAX. In geology, one must often look at a material without any prior knowledge on how it was formed. Applying this view to man-made materials can be a great help in explaining unexpected test results or materials failures that customers need to understand.

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