

## **Confocal Raman Imaging Spectroscopy – A window for nanoscale analysis**

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Confocal Raman Imaging Spectroscopy (CRIS) is a technique that enables further analyses. The ability to depth profile through samples and interrogate specific areas of interest within a sample enables modern sample preparation techniques such as focused ion beam milling to target the area of interest for further high resolution analyses including nanoSIMS, ToFSIMS, TEM, STXM. We will present specific examples of how this enabling technology can be used by referencing specific examples from Martian meteorites studies. Furthermore, with high resolution and increased detection sensitivity, imaging minute changes in chemistry and mineralogy becomes possible. This allows the detection of trace phases in miniscule quantities within translucent materials. Specific examples include the detection of methane in diamonds, chloromethane in halite grains, organic carbon in Martian meteorites and the elucidation of mineral grain orientation in ancient fossils.