



SEMINAR

Crystallochemical Adaptations of Technological Apatites

Professor Tim White

**Head of Materials Science Division in the School of Materials Science
and Engineering at Nanyang Technological University, Singapore
and
Director of the Facility for Analysis, Characterisation, Testing and
Simulation (FACTS), Singapore**

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Science Lecture Theatre S11, Bldg 25

Abstract

Hydroxyapatite is well known as the primary inorganic constituent of bone. Less well appreciated is the chemical diversity of the apatite family that can be exploited in environmental and energy technologies. Even in the case of biological apatite, questions remain concerning the manner of incorporation of carbonate and metals (Mg, Fe, Zn) in its crystal structure. This presentation will summarize:

- (1) A recently developed description of apatite as a microporous, zeolitic material allowing systematization of crystallochemical features, that can be adapted to verify the reliability of Rietveld refined structures;
- (2) The characteristics of waste form apatites and solid oxide fuel cell electrolyte apatites and a comprehensive taxonomy to formulate designer apatites; and
- (3) Some surprising nanometric features in natural and synthetic apatites.

Convenor: Dr. Joanne Etheridge

Email: joanne.etheridge@mcem.monash.edu.au

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