



Community Talk

ALL WELCOME

31



1730

AUG

LECTURE THEATRE 1
PHYSICS BUILDING
UTAS, SANDY BAY

Building a common understanding of rare-earth elements

Rare-earth elements are having a moment in the public spotlight, having come from obscurity to the forefront of the national (and international) consciousness.

Rare-earth elements have long been used in industrial and household applications, for example, in high-strength magnets and catalytic converters, but increasingly, their unique properties have made them indispensable components of many modern devices and applications. With demand sky-rocketing, scrutiny has been placed on the production of these elements, from mining, to refinement, distribution, usage, and recycling; the story is complex.

In this discussion, a geological perspective will be used to describe where and how we find rare-earth elements, the exotic-sounding minerals they inhabit like xenotime and monazite, and why their chemical behaviour makes them so important. A physics perspective will then be used to provide an overview of what makes rare-earth elements special for modern applications, and provide examples of their usage highlighting their criticality to life in the modern world.

SPEAKERS



DR OWEN MISSEN



DR ANDY MCCULLOCH

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Owen is the environmental geology lecturer at the University of Tasmania. Owen undertakes research across the entire mining value chain, focusing on the environmental behaviour of metals at the earth's surface.

Andy is a lecturer with background in quantum, atomic, and optical physics, with an interest in communicating the ideas behind, and the inner workings of the technologies which underpin our society.

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