



AFI Vic - Sofa Seminars 2020

The second in our Sofa Seminar – AFI ► *OnDemand* series was presented by Professor Matthew Barnett. Those of us who work in foundry operations are only too familiar with the term and practices of a circular economy - as we use many of them on a daily basis. Professor Barnett enlightened us on this topic further by exploring material longevity in wear applications from both a circular economy and product differentiation perspective.

Grab a glass of your favourite tippie, a comfortable chair and a set of headphones if you have them,

to review this presentation by clicking on the following link;

<https://youtu.be/KJnc3a42kuo>



Professor Matthew Barnett is a Metallurgical Engineer. He creates knowledge and models to facilitate the use of digital design in alloys and processes. He obtained his engineering degree with first class honours at RMIT, which was followed by a PhD at McGill University in Canada. He joined Deakin University in 1999 after 5 years with BHP Steel. He has held an ARC QEII Fellowship and an ARC Future Fellowship and currently leads the ARC mineAlloy Training Centre and Deakin's Institute for Frontier Materials which is focused on imparting materials with improved wear resistance. His main high-level research goal is to facilitate the re-design of materials for a circular economy.

Some creative applications of circular economy principles in research

This talk examined aspects of the circular economy principles of material longevity and material reuse. A research perspective was given and some creative options discussed relating to foundry alloys and additive manufacturing. Material longevity in wear applications is particularly attractive from both a circular economy and a product differentiation standpoint. Some advances in wear resistance were also discussed. A new additive manufacturing technology was introduced that makes use of scrap metal.

