

MSE's 30th Anniversary Colloquium Series



What Have Minerals Done for Us? Environmental Materials as Societal & Intellectual Resources

Professor Simon Redfern

Asian School of the Environment

School of Materials Science & Engineering

Abstract

Humanity's interest in the Earth has long been driven by the desire to extract value from its depths, apparently treating Earth as a limitless resource. Societies and cities are built on rock in more ways than one. Here I will chart how minerals have provided the resources and tools that have transformed societies' technological development from stone, bronze and iron age, through industrial revolution driven by steel and coal, to materials discovery and design today.

Nature not only provides physical resources and challenges, it also provides routes to solutions. I will explore how the minerals and environmental materials that have long represented economic riches for humanity can also yield intellectual treasures to provide new materials understanding towards securing a safe future for all.

Biography

Simon Redfern is Dean of the College of Science, and joined NTU in 2019. He spent almost three decades at the Department Earth Sciences, University of Cambridge, where for many years he taught the introductory course "Materials & Mineral Sciences", jointly with the Department of Materials Science and Metallurgy. He is interested in linking the atomic-scale structure and properties of materials to planetary-scale processes on Earth and elsewhere. Currently, he applies experimental and computational structure prediction methods to understand how minerals and fluids interact at the extreme conditions of planetary interiors. He has served on a number of bodies include the UK governments' advisory Committee on Radioactive Waste Management.



28 Jul 2021 (Wednesday)
10:30 AM – 11:30 AM

Zoom Meeting, please register here:

<https://ntu-sg.zoom.us/j/94823166192>

Meeting ID: 948 2316 6192 Passcode: **280721**