

Public Lecture

**“What is Sustainable Technology?
A Materials Perspective”**

A “sustainable development” is one that contributes in an equitable way to human welfare, does so in a way that minimizes the drain on natural resources, complies with the rule of law and is financially viable. Many academic, civil, commercial and legislative projects claim to do this, and many of them are materials-related – examples are: developing biopolymers to replace those derived from oil, imposing carbon taxes, promoting bamboo as a building material and subsidizing domestic PV. We refer to them as “articulations” of sustainable development. But how are they to be assessed? There is no simple, “right” answer to questions of sustainable development – instead, there is a thoughtful, well-researched response that recognizes the concerns of stakeholders, the conflicting priorities and the economic, legal and social constraints of a technology as well as its environmental legacy.

This talk will describe a framework for exploring sustainability from a materials perspective. The aim is not to define a single metric or index of sustainability; rather it is to improve the quality of discussion and debate on projects that claim to be sustainable developments. This suggests a methodology for the sustainability-analysis of products or projects, supported by a new CES Edu database, SUSTAIN, that provides some of the necessary inputs. The method and database will be illustrated by applying them to a contemporary development – the electric car.

Wednesday, 10th December 2014, 3.00pm – 4.00pm
Engineering Auditorium, Level 1, Block EA,
Faculty of Engineering, National University of Singapore

Refreshment will be served from 2:30pm. All Are Welcome!



Speaker
Professor Michael F. Ashby

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Michael Ashby is now Emeritus Professor in the Engineering Department at Cambridge University, having previously held a Royal Society Research Professor at the University of Cambridge, and a Royal Academy of Engineering Visiting Professor at the Royal College of Art in London. He is the author of some 250 papers and a number of books on materials. Among the more recent are “Cellular Solids” (1988, 2nd edition 1997), “Materials Selection in Mechanical Design” (4th edition 2011), “Metal Foams – a Design Guide” (2000), “Materials and Design – the Art and Science of Materials Selection in Product Design” 3rd edition (2014), “Materials and the Environment”, 2nd edition (2013) and “Materials: Engineering, Science, Processing and Design” 3rd edition (2014). His interests are in Design, and in the role Materials play in it. He is a founder and Director of Granta Design, Cambridge, a company specialising in materials informatics and resources for materials education.