

Professor Hanshan Dong's Inaugural Lecture, 21/01/2014

Surface Engineering: Origins, Status and Potential

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Location G33, Mechanical and Civil Engineering Building (followed by a reception in the Shell Lounge)

Date(s) Tuesday 21 January, 2014 (5:15pm)

Synopsis

Surface Engineering has an underpinning role across the full spectrum of manufacturing industry and produced significant technological, economic and societal impact. Many products, from aero engines to razor blades, use a treated surface in one form or another to achieve improved performance and prolonged lifespan. Therefore, surface engineering has been widely recognised as the key manufacturing technology for the 21st century. This Inaugural Lecture starts with a brief introduction to Surface Engineering with reference to the antiquarian aspects of surface hardening, the establishment of the interdisciplinary subject of surface engineering, the families of surface engineering processes and their wide spread of applications. This will be followed by demonstrating the impact of innovative surface engineering technologies recently developed at the University of Birmingham by way of examples including ceramic conversion of light alloys for motorsports and nuclear applications; S-phase surface engineering of corrosion-resistant alloys for long-life joint prostheses; multifunctional surfaces for anti-bacterial medical devices and high-efficiency fuel cells; and nano surface engineering for nano-fabrications. The lecture finishes with some prospective new-horizons for surface engineering.

Registration

Registration for this event is now closed. An article on Professor Dong's research and Inaugural Lecture is available [here \(/university/colleges/eps/news/college/Surface-Engineering-Origins,-Status-and-Potential.aspx\)](#).