

THE DESIGN OF ADVANCED STEELS

Institution of
**MECHANICAL
ENGINEERS**

7 March 2017

Institution of Mechanical Engineers



FREE AND OPEN TO ALL

PRESENTED BY:

Sir Harry Bhadeshia

**Tata Steel Professor of Metallurgy, Department of Materials
Science & Metallurgy, University of Cambridge**

Book your place at:

www.imeche.org/advancedsteels

Lecture

THE DESIGN OF ADVANCED STEELS

7 March 2017

STEELS ARE COMPLEX MATERIALS SO TO CREATE NEW ALLOYS OR PROCESSES CAN BE COSTLY.

The trend for some time has therefore been to exploit mathematical modelling based on a deep understanding of the subject to accelerate design. However, mathematical models are a simplified version of reality because we simply do not understand many aspects of physical metallurgy, nor can we express all that is known into a quantitative framework. There is no 'theory of everything' in any subject.

The lecture will demonstrate how entirely new classes of iron alloys can be created to fulfil the tasks of extreme engineering, and which can be produced on a massive scale. Principles that help make judgements on whether a material can ever be successful in structural applications will be described, in the context of claims that certain materials can be hundreds of times stronger than steel.



SIR HARRY BHADESHIA

**Tata Steel Professor of Metallurgy,
Department of Materials Science &
Metallurgy, University of Cambridge**

Harry Bhadeshia is the TATA Steel Professor at the University of Cambridge. His main interest has been on the theory of solid-state phase transformations with emphasis on the prediction and verification of microstructural development in complex metallic alloys, particularly multicomponent steels. He has published extensively on the subject and much of his work in both teaching and research is freely disseminated on www.msm.cam.ac.uk/phase-trans

Improving the world through engineering

OTHER EVENTS TO LOOK FOR:



NON DESTRUCTIVE TESTING

21-22 March 2017

IMechE Engineering Training Centre,
Sheffield

www.imeche.org/ndt2017



MIDLANDS ENGINEERING DINNER

31 March 2017

The ICC, Birmingham

[www.imeche.org/
midlandsengineeringdinner](http://www.imeche.org/midlandsengineeringdinner)

PROGRAMME

- 17:30** Registration and Refreshments
- 18:00** Lecture begins
- 18:40** Q&A
- 19:00** Lecture Ends

FOR MORE INFORMATION:

VISIT: www.imeche.org/advancedsteels

CALL: +44 (0)20 7973 1251

EMAIL: eventenquiries@imeche.org