The Iby and Aladar Fleischman
Faculty of Engineering
Department of Materials Science and Engineering

אוניברסיטת תל-אביב
TEL AVIV UNIVERSITY

הפקולטה להנדסה
ע"ש איבי ואלדר פליישמן
המחלקה למדע והנדסה של חומרים

You are cordially invited to attend this seminar to be held on

Wednesday, October 21st, 16:00
Room 103, Engineering Class (Kitot) Building

Integrated multi-disciplinary studies of applied transition metal oxide interfaces

Dr. Dorian Hanaor
Faculty of Engineering, University of Sydney

Numerous transition metal oxide systems have been attracting significant research attention in recent decades towards various high value applications including solar energy utilisation, environmental remediation and electronic devices. Despite the rapidly increasing volume of research and constant publication of new findings, many such material systems often fail to attain widespread application owing to the lack of actionable outcomes and inconsistent research findings.

The surface driven functionality of transition metal oxides in a range of applications is governed by properties encompassing multiple physical, chemical and mechanical disciplines. Focusing on doped titanium dioxide photocatalysts for large scale environmental applications we demonstrate how the integration of multiple aspects and methodological approaches can yield meaningful outcomes and shed new light on intensively researched material systems. Analogous approaches are further demonstrated with respect to interface science in energy materials.

Biosketch

A native of Haifa, Dorian has resided in Sydney NSW since 2003. Coming from a ceramic materials engineering background Dorian's current research projects are in the fields of ceramic synthesis and characterisation, hierarchical structures and interface science. In parallel Dorian works as an engineering consultant undertaking projects relating to the mechanics of materials and waste stream recovery.

Dorian's recent research generally combines experimental techniques for the synthesis characterisation and performance of materials and interfaces together with diverse computational methods in order to gain new insights into applied complex systems.

Dorian obtained his PhD in Materials Science from the University of New South Wales in 2012 and has since then been a research associate with the faculty of engineering at the University of Sydney.