



FLEET

ARC CENTRE OF EXCELLENCE IN
FUTURE LOW-ENERGY
ELECTRONICS TECHNOLOGIES



UNSW
SYDNEY

Friday 18th October

14:30-15:30

FLEET SEMINAR

Electronics of the future

Dr Sumeet Walia

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Victoria Fellow, RMIT

Abstract

Our work is based on materials engineering at the micro/nanoscales and deploying them for a range of applications in electronics, optoelectronics, healthcare and environmental monitoring. The work involves three core areas.

First, is the investigation of two-dimensional semiconducting materials, understanding fundamentals, engineer defects and deploy them to create field-effect transistors or the emulation of synaptic interfaces using light-matter interactions. Within this theme, our work has also demonstrated the ability to create semiconductor-free transistors by fabricating extremely small gaps between metal electrodes.

Second is based on utilising metal oxide thin films for multifunctionality and translating these functionalities onto stretchable platforms. This has resulted in the development of wearable sensors for monitoring of UV radiation, obnoxious gases.

Third is working and building partnerships with industry to translate research into end user products.

BIO

Sumeet is a Senior Lecturer and a Vice-Chancellor's Fellow in the School of Engineering at RMIT University. He leads a team that focuses on engineering small scale materials and deploying them for applications in next-generation electronics, optoelectronics and sensors. Sumeet's work has been recognised through several awards for innovation and impact which include being named one of the Top 10 Young Innovators in the Asia-Pacific, Victorian Young Achiever for Research Impact and Australia's most Innovative Engineers.

He has published over 70 peer-reviewed outputs, four patents and edited two books. He is passionate about research translation and is currently working with several industry partners to create end-user products.



DATE: Friday 18th October
TIME: 14:30-15:30
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