



**Name of the keynote speaker: Prof Aravind Vijayaraghavan**  
**Affiliation: University of Manchester, UK**

### **Short Biography**

Prof. Vijayaraghavan is a Professor of Nanomaterials in the Department of Materials and the National Graphene Institute at The University of Manchester. He leads the Nanofunctional Materials Group. He is also the Head of Internationalisation for the Faculty of Science & Engineering. His research involves the science and technology of graphene and 2-dimensional materials, particularly for applications in composites, electronics, sensors and biotechnology. He was previously a senior post-doctoral research associate at Massachusetts Institute of Technology, USA and an Alexander von Humboldt Fellow at Karlsruhe Institute of Technology, Germany. He was awarded his MEng (2002) and PhD (2006) from Rensselaer Polytechnic Institute, USA and his BTech (2000) from the Indian Institute of Technology - Madras, India. He has published over 100 papers in international peer reviewed journals and delivered over 100 presentations at international conferences. He has filed 7 patents. He is the founder of two spin-out companies, Atomic Mechanics Ltd. and Grafine Ltd. He is also a leader in public engagement and science communication has won numerous awards for the same.

**Title of the keynote talk: Graphene-enhanced Composite Materials and their Applications**

### **Abstract of the keynote talk**

Graphene is the 2-dimensional allotrope of carbon first isolated at the University of Manchester in 2004. Since then, graphene has shown significant promise as a multifunctional filler in combination with polymers, metals and ceramics to enhance their properties and enable novel

applications. In this presentation, I will talk about various graphene-enhanced composite systems developed in my research group. These include (i) graphene-enhanced composite rubber and foam for improved mechanical, electrical and thermal properties, which have already demonstrated commercial impact, (ii) graphene-polypeptide composite materials for biomedical applications, (iii) graphene and polymer laminated heterostructures for electromechanical sensor application and (iv) functionalized graphene 3D assemblies for water purification applications. I will also present the graphene ecosystem at the University of Manchester and the mechanisms and institutes that we have established in order to bridge the 'valley of death' and take graphene technologies successfully from lab to market.