



TITLE AND FULL NAME: Professor Sir Konstantin Novoselov

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LINK TO WEBPAGE: www.kostya.graphene.org

TITLE OF PRESENTATION: Physics and Applications of graphene and 2D materials

ABSTRACT OF PRESENTATION

One of the most important “property” of graphene is that it has opened a floodgate of experiments on many other 2D atomic crystals: BN, NbSe₂, TaS₂, MoS₂, *etc.* The resulting pool of 2D crystals is huge, and they cover a massive range of properties: from the most insulating to the most conductive, from the strongest to the softest.

If 2D materials provide a large range of different properties, sandwich structures made up of 2, 3, 4 ... different layers of such materials can offer even greater scope. Since these 2D-based heterostructures can be tailored with atomic precision and individual layers of very different character can be combined together, - the properties of these structures can be tuned to study novel physical phenomena or to fit an enormous range of possible applications, with the functionality of heterostructure stacks is “embedded” in their design.

Already now such materials bring to life a number of exciting applications.

BIOGRAPHICAL NOTE

Professor Sir Konstantin Novoselov FRS, member of a National Academy of Sciences, USA Prof Sir Konstantin ‘Kostya’ Novoselov FRS was born in Russia in August 1974. He has both British and Russian citizenship. He is best known for isolating graphene at The University of Manchester in 2004, and is an expert in condensed matter physics, mesoscopic physics and nanotechnology. Every year since 2014 Kostya Novoselov is included in the list of the most highly cited researchers in the world. He was awarded the Nobel Prize for Physics in 2010 for his achievements with graphene. Kostya holds positions of a Tan Chin Tuan Centennial Professor at the National University of Singapore. He is also part time Langworthy Professor of Physics and the Royal Society Research Professor at The University of Manchester.

He graduated from the Moscow Institute of Physics and Technology, and undertook his PhD studies at the University of Nijmegen in the Netherlands before moving to The University of Manchester in 2001. Later Professor Novoselov joined the National University of Singapore in 2019. Professor Novoselov has published more than 320 peer-reviewed research papers. He was awarded with numerous prizes, including Nicholas Kurti Prize (2007), International Union of Pure and Applied Science Prize (2008), MIT Technology Review young innovator (2008), Europhysics Prize (2008), Bragg Lecture Prize from the Union of Crystallography (2011), the Kohn Award Lecture (2012), Leverhulme Medal from the Royal Society (2013), Onsager medal (2014), Carbon medal (2016), Dalton medal (2016) among many others. He was knighted in the 2012 New Year Honours.