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Joint Event

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&

Advanced Nanoscience and Nanotechnology

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Alexander M Seifalian

The London BioScience Innovation Centre, UK

Will graphene nanomaterials change our life?

Graphene considers as a wonder material, it is the strongest material on the planet, super-elastic and conductive. The functionalised GO is nontoxic and antibacterial. We functionalised GO and used it as a building block for nanocomposite materials. The applications of these nanocomposites are huge, in biomedicine, marine and other industries. In my talk I present and discuss our work on application of these nanocomposite materials in development of human organs. Commercially there are not many materials to be used for human implantation, this is due to toxicity of material, immunological response or do not have the right physicochemical properties. We have developed a family of nanocomposite materials for biomedical application based on functionalised reduced graphene oxide. The materials can be fabricated to human organs with the 3D printer or other fabrication methodologies. The scaffold from these materials is functionalised with bioactive molecules and stem cells

technology, so physiologically simulate the human organs. The data for development of organs using these materials will be presented.

Speaker Biography

Alexander M Seifalian, Professor of Nanotechnology and Regenerative Medicine worked at the Royal Free Hospital and University College London for over 26 years. He published more than 647 peer-reviewed research papers and registered 14 UK and International patents. He is currently CEO of NanoRegMed Ltd, working on the commercialisation of his research. In 2007, he was awarded the top prize in the field for the development of nanomaterials and technologies for cardiovascular implants by Medical Future Innovation. He won the Nanosmat Prize in 2013 and in 2016, he received the Distinguish Research Award in recognition of his outstanding work in regenerative medicine from Heals Healthy Life Extension Society. His achievements include development of the world first synthetic trachea, lacrimal drainage conduit, and vascular bypass graft using nanocomposite materials, bioactive molecules and stem cell technology. Currently, he is working on development and commercialisation of human organs using graphene-based nanocomposite materials and stem cells technology.

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