Gerard Tobias, J Nanomed Nanotechnol 2014, 5:5
http://dx.doi.org/10.4172/2157-7439.S1.017

OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Nanotek & Expo

December 01-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

Carbon nanotube-iorganic nanohybrids

Gerard Tobias
Institut de Ciencia de Materials de Barcelona, Spain

Carbon nanotubes (CNTs) have been advocated as promising candidates in a wide variety of fields due to their excellent physico-chemical properties. The potential of carbon nanotubes can be further expanded via their modification with inorganic materials, forming carbon nanotube-inorganic hybrids. For instance, the inner cavity of CNTs can be filled with a chosen payload whilst the outer surface can be modified to improve their processability. Following this approach, we achieved ultra-sensitive imaging by encapsulation of radioactive metal iodide, of interest in the biomedical field. A Further study in our labs on the encapsulation of metal halides into the cavities of CNTs has lead to the observation of rolled up 2D-single-layered crystals. Such materials combine the properties of both 1D and 2D systems. Decoration of the external surface with inorganic nanoparticles also results in the formation of novel systems with advanced properties. We have recently developed CNTs for dual imaging by radio-labelling iron oxide decorated CNTs. The resulting hybrids allow Magnetic Resonance (MR) and Single Photon Emission Computed Tomography (SPECT) imaging

Biography

Gerard Tobias obtained the degree in Chemistry (with Honours) from the Autonomous University of Barcelona (2000), Master in Materials Science and PhD with European mention (UAB, 2004). He has been a Research Visitor at Ames Laboratory (United States) and at EMAT (Belgium). Between 2004-2009 he worked at the University of Oxford. Since 2009 he leads research on “Carbon Nanomaterials and Inorganic Nanostructures” at the Materials Science Institute of Barcelona (ICMAB-CSIC). He is a Member of the Management Committee of the European COST Action TD1004 on “Theragnostics Imaging and Therapy” and is the Co-ordinator of the European project RADDEL.

gerard.tobias@icmab.es