



NANOSCIENCE COLLOQUIUM

Thursday September 12th 2013 at 15:15, K-space, Fysicum

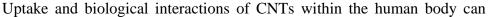
Inflammatory reactivity of carbon nanotubes:

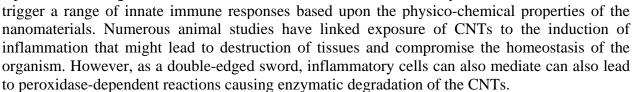
Focus on biodegradation

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Unique electronic, optical and mechanical features of carbon nanotubes (CNTs) along with groundbreaking innovations have made them an indispensable part of modern day technologies. Therefore, deliberate, or, accidental exposure of humans to CNTs during manufacturing, end product consumer use and disposal is of increasing concern.





Thus, using peroxidases of plant and animal origin have shown complete degradation of CNTs into organic intermediate products and harmless carbon dioxide and water as end products. Inflammatory cells *such as* neutrophils and eosinophils have been found capable of enzymatic degradation of CNTs, with mitigation of the pro-inflammatory and pro-fibrotic effects of CNTs. These findings make CNTs a highly suitable candidate for future advanced technologies,

potentially also for medical applications.

Further reading:

Bhattacharya, K.; Andón F.T., El-Sayed, R.; Fadeel, B. *Mechanisms of carbon nanotube-induced toxicity: Focus on pulmonary inflammation*, Advanced Drug Delivery Reviews, June 7 2013. [Epub ahead of print]

Host: Christelle Prinz (FTF)

This is one in a regular series of Nanoscience Colloquia, aimed at all researchers and students with an interest in nanoscience. The series is arranged by the Strategic Research Environment "The Nanometer Structure Consortium at Lund University" (nmC@LU) and by the Linnaeus environment "Nanoscience and Quantum Engineering", funded by the Swedish Research Council (VR).

