



Announcing

A Seminar Presentation

on Thursday

December 8, 2016

at 3:00 pm in

North Hall 102

at The University of New Haven

Application of Carbon Nanotubes in Biology

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Abstract:

Bionanotechnology is new applied field which uses the principles of Physical Sciences to solve biological problems in the micro and nanoscale. This has been possible particularly with the advent of nanotechnology and nanomaterials. In this presentation the significance of size in figuring out the properties of nanomaterials will be discussed. Particular emphasis would be given to the properties of Carbon based nanomaterials (Carbon Nanotube, Buckyball and Graphene). The benefits of using nanomaterials for developing sensors (nanosensors) would be highlighted with more focus on Carbon Nanomaterials. The tunable electrical properties of the Carbon nanomaterials will be compared. The different measurement techniques for biosensors would be compared and contrasted. The patented Carbon Nanotube based bionanosensor developed by the speakers research group would be discussed in detail. The bionanosensor uses impedance spectroscopy to detect DNA hybridization. The measurement would be compared with other similar methods with respect to precision, accuracy and sensitivity. The experimental results would be compared with mathematical simulation models. The low-pass-filter and the Digital Signal Processing (DSP) pole-zero filter analysis would be used to interpret the results. Related carbon nanotube based research focused on other biological applications from the speakers research group will also be mentioned.

Further Information

For further information, please contact Angie Domschine at the Department of Mathematics and Physics, Office: Maxcy 204, 203-932-7250, ADomschine@newhaven.edu.