

Abstract Submitted
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Real-Time Observation of Cell and Carbon Nanotube Interactions MICHELLE CHEN, MELANIE BROMAN, CLAIRE MATHEWS, ERIC MCPHERSON, Point Loma Nazarene University — Carbon nanotubes have been widely researched for disease diagnosis and drug delivery applications. However, its impact on biological systems is yet to be sufficiently understood. We studied optical imaging of Chinese hamster ovarian (CHO) cells exposed to various carbon nanotubes concentrations at various time points. The cell stress due to carbon nanotubes exposure is accessed via morphological changes of the CHO cells. Data showed that cell death increases with increasing carbon nanotube concentration and time exposure. To continuously view such changes of any one individual cell, we constructed an optically transparent miniaturized incubator that fits on a microscope stage. This specific incubator is able to maintain desirable temperature, humidity, and CO₂ concentration to allow proper cell growth. Such incubator can be used to track real-time interactions of any cells and nanomaterials for future data collection.

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