Abstract Submitted
for the MAS17 Meeting of
The American Physical Society

Observing Microtubules' Vibrational Properties in Micrometer Channels[1] KARINA DSOUZA, AROOJ ASLAM, CAMELIA PRODAN, New Jersey Institute of Technology — Taxol is a chemotherapy drug that discourages the spread of cancer by inhibiting microtubule (MT) catastrophe, forcing cancer cells to undergo apoptosis. Repeated use of Taxol, however, often yields Taxol-resistant cancer cells. It is possible that these cells have modified vibrational properties and edge modes that are interfering with Taxol's inhibition of MT catastrophe. The purpose of this research project is to flow MTs through progressively smaller channels (5.3 mm-˜270 μm) and lay the foundation for the isolation of an MT in a nanochannel – which will allow for more controlled MT excitation and better observation of vibrational properties.

[1]NJIT, W.M. Keck Foundation

Karina Dsouza
New Jersey Institute of Technology

Date submitted: 29 Sep 2017 Electronic form version 1.4