

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Nanofabrication and Detection of Molecular Shuttles powered by Kinesin Motor Proteins DANIEL OLIVEIRA, WPI - Advanced Institute for Materials Research, Tohoku University, Sendai, Japan, KIM DOMYOUNG, Dept. of Biomolecular Engineering, Tohoku University, Sendai, Japan, MITSUO UMETSU, WPI - Advanced Institute for Materials Research and Dept. of Biomolecular Engineering, Tohoku University, Sendai, Japan, TADAFUMI ADSCHIRI, WPI - Advanced Institute for Materials Research, Tohoku University, Sendai, Japan, WINFRIED TEIZER, WPI - Advanced Institute for Materials Research, Tohoku University, Sendai, Japan and Dept of Physics, Texas A&M University, College Station, TX, USA — The intracellular cargo delivery performed by kinesin motor proteins can be biomimetically employed to engineer tailor-made artificial nanotransport systems. Kinesin (expressed on an *Escherichia coli* system) and microtubules (obtained from the polymerization of tubulin proteins) were prepared and characterized. We report recent results and explore the aim of the construction of Nanoelectromechanical Systems and their potential applications, e.g. as drug delivery systems. This work was supported by the WPI Program.

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Date submitted: 28 Nov 2010

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