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Metallic substrates for improved electroplating of carbon nanotube structures BERG DODSON, RICHARD VANFLEET, ROBERT DAVIS, DALLIN BARTON, LAWRENCE BARRETT, MARCUS FINLINSON, Brigham Young University — Metal electroplating of carbon nanotube (CNT) forests is a possible method for metal MEMS fabrication. Recent work has demonstrated that electroplating an interconnected carbon nanotube structure is possible through direct electrical contact to the CNT structure. However, this is not ideal as in many MEMS designs, features need to be both electrically and mechanically isolated from each other. Our current efforts have been directed toward electroplating CNT patterns through indirect electrical contact. Where indirect contact means electrical contacting to the CNT's through a patterned metallic lead that sits between the substrate and the grown CNT forests. As the CNT forest catalysts layer involves an alumina diffusion barrier and the iron catalyst layer, this is not as simple as it sounds. We will report on the current status and recent results of establishing an electric signal from the metallic leads through to the carbon nanotubes.

Berg Dodson
Brigham Young University

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