



How Do These Motors Move?

Mary Ojukwu

PI:Dr. Jennifer Ross (UMass Physics)

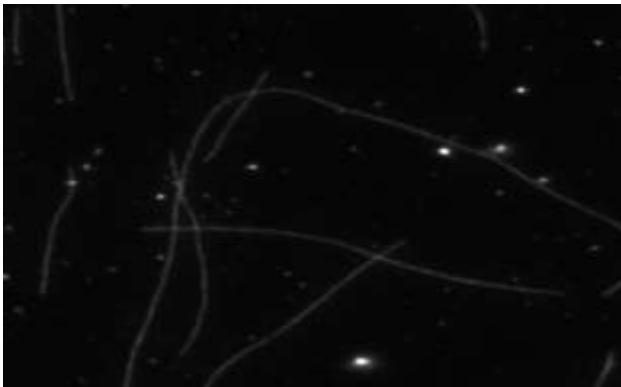


Figure 1: Gliding assay photo of wild-type Halo-Kinesin bound microtubules *in vitro*. Epi-fluorescence microscopy records microtubules gliding due to the motor action of the kinesin motor protein.

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Motor proteins are valuable in fighting diseases such as cancer. Kinesin is an essential motor protein that functions in cellular division and transports cellular cargo along cytoskeletal microtubules. The kinesin motor protein is critical for cellular function because cellular materials *in vivo* can arrive to needed destinations within the cell faster than at the rate of diffusion. There is much known about the movement of kinesin, yet there is still more to discover. We study the characteristics of mutant kinesin motion to discover exactly how these motors function.