Interactions of molecular motors with obstacles

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Molecular motors are small machines that move and do work in cells. These motor proteins are required for many important biological processes. Motor proteins are also of interest to physicists as prototypes of nanoscale machines. This talk will first give an overview of motor proteins and the physical constraints common to all molecular motors. Then a theory of motor proteins that move obstacles will be discussed, using the unwinding of double-stranded DNA molecules by helicase proteins as an example. The results presented will address how a molecular motor most effectively move an obstacle.