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**Examining Adsorbed Polymer Conformations with Fluorescence Imaging** MARIA PARKES, Student Graduate, MOURAD CHENNAOUI, JANET WONG, TRIBOLOGY GROUP, DEPT. OF MECHANICAL ENGINEERING TEAM — The conformation of adsorbed polymers can have significant impact on their properties such as dynamics and elasticity as well as their ability to take part in reactions with other molecules. Experimental research to determine adsorbed polymer conformation has relied mainly on atomic force microscopy (AFM) studies. During an AFM scan, the contact between the scanning probe and the polymer could affect the polymer conformation, particularly where parts of the polymer might have formed projected loops and tails. In this work, conformations of model polymers are examined with total internal reflection fluorescence microscopy (TIRFM). The advantage of TIRFM over AFM is that TIRFM is a non contact technique. Lambda DNA labelled along its length with fluorescent probes was adsorbed in a projected 2D – 3D state. With TIRFM, the relationship between intensity and depth was used as a basis to determine how the conformation of the adsorbed polymers evolved with time using our custom algorithm.

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