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AFM studies of homogeneous and mixed lipid mono- and bilayers[1] LINDSAY RUNYAN, University of Michigan-Dearborn, MIRCEA PANTEA, PETER HOFFMANN, Wayne State University — Phospholipid mono- and bilayers have potential research applications in various areas of biology and medicine, where they serve as substitutes for cell membranes. The use of atomic force microscopy (AFM) to characterize such materials allows for the measurement of the topographic features of the material on a subnanometric scale and of the forces arising due to the interaction between the AFM tip and the phospholipid surface; the addition of biological molecules commonly found in cells to the AFM tip, such as proteins, allows the interaction between these molecules and a cell membrane to be studied. For this study, mixed phospholipid monolayers consisting of 1,2-Distearoyl-*sn*-Glycero-3-Phosphoethanolamine (DSPE) and 1,2-Dioleoyl-*sn*-Glycero-3-Phosphoethanolamine (DOPE) as well as bilayers consisting of 1,2-Dipalmitoyl-sn-Glycero-3-Phosphocholine (DPPC) were synthesized and studied using AFM imaging and force measurements.

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