1035-55-1898 **C. Joanna Su*** (jsu@providence.edu), Dept. of Mathematics and Computer Science, 549 River Avenue, Providence College, Providence, RI 02918. *Fibration and Cofibration in Module Theory.*

Peter Hilton established the homotopy theory in module theory which was parallel to the existing homotopy theory in topology. In this talk we deliver the concepts of fibrations and cofibrations in module theory. We pursue the homotopy lifting property and the homotopy extension property in module theory as they are defined in topology and discover that fibration in the injective homotopy theory of modules and cofibration in the projective theory hold properties much analogous, with a subtle twist, to those in topology. Consequently, one establishes the existence of the homotopy exact sequence of a fibration in module theory and produces the homotopy exact sequence of a cofibration in module theory, where the latter is absent in topology. (Received September 20, 2007)