1145-35-2756 **Jaffar Ali Shahul Hameed*** (jashahulhameed@fgcu.edu), 10501 FGCU Blvd. S., Fort Myers, FL 33965, and **Seshadev Padhi**. *Multiplicity of Positive Radial Solutions to Elliptic Equations in an Annulus.* Preliminary report.

In this talk, we establish existence of multiple positive radial solutions of the equation

$$-\Delta u = \lambda g(|x|) f(u), \;\; R_1 < |x| < R_2,$$

$x \in R^N$, $N \geq 2$ subject to the following mixed boundary condition at R_1 and R_2:

$$\left.\begin{aligned} u = 0 \text{ on } |x| = R_1 \text{ and } |x| = R_2, \\ u = 0 \text{ on } |x| = R_1 \text{ and } \frac{\partial u}{\partial r} = 0 \text{ on } |x| = R_2, \\ \frac{\partial u}{\partial r} = 0 \text{ on } |x| = R_1 \text{ and } u = 0 \text{ on } |x| = R_2. \end{aligned}\right\} \tag{1}$$

We use Leggett-Williams multiple fixed point theorems to obtain sufficient conditions for the existence of at least one or two positive radial solutions. (Received September 25, 2018)