



# ***SEMINAR ANNOUNCEMENT***

**“Applications of the Nuclear spectroscopy”**

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Nuclear spectroscopy has many applications in the industrial and nuclear fields. Here, we will explore some of these applications, namely, interaction of gamma rays with matter (shielding of gamma rays), landmines detection using nuclear technique (NBS technique), image reconstruction techniques, design a neutron irradiation cell, and natural background radiation in some regions. We have investigated some shielding materials such as heavy oxide glasses, heavy concrete, building materials...etc. using Monte Carlo N-Particle Transport code (MCNP). The distribution of neutron flux in an irradiation assembly were studied. Moreover, the use of neutron back-scattering technique (NBS) in the area of landmine detection were investigated. This technique is promising and giving a path of hope to overcome the dangerousness of landmines. We also developed some algorithms for computerized tomography imaging technique.