

# *Future Plan*

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## *Present Goal—Deep-Inelastic Scattering*

- 1 Access the impact of the structure functions  $F_L$  and  $R = F_L/F_T$  on (anti)neutrino cross-sections and violations of the Callan-Gross relation.
- 2 To understand the differences in the nuclear effects for electromagnetic and weak DIS structure functions and cross-sections.
- 3 To understand the kinematic limits of applicability of the DIS formalism for structure functions and cross-sections.

## *Present Goal—Inelastic Scattering*

- 1 Recently, we have re-visited single pion production off the free nucleon Int. J. Mod. Phys. E25 (2016) 1650010, and working on applying it to nucleus.
- 2 The work on  $\eta$  production and weak interaction induced associated particle production has started with the Valencia group (mainly Luis) and we hope to make some progress on it.
- 3 We are also planning to start work on quark-hadron duality in CC and NC sector of neutrino and antineutrino interactions.

- ① Our group at Aligarh would love to join any Theoretical/Experimental collaboration coming out of NUSTEC board discussion.