

**Abstract:**

Analyses of weak gravitational lensing, for current and future surveys, require great efforts to construct non-linear power spectra and covariance matrices necessary to derive unbiased estimations of the cosmological parameters.

In this context weak lensing simulations play a major and leading role.

In my talk I will describe a fresh and smart approach to construct realistic three dimensional light cones, and the corresponding cosmic shear power spectra, using the halo model formalism. This will give the possibility to "beat" numerical simulated light-cones both in time and in mass resolution, and also to "explore" a variety of different cosmological models, preferably far from the standard LCDM.

In addition this approach will give the possibility to simulate as large as we want fields of view, characterize them in shape and extend to very high redshifts.