Introduction to Large Scale Structure – **Raul Abramo** (IF-USP, Brazil) & **Rogerio Rosenfeld** (IFT-UNESP&ICTP-SAIFR, Brazil)

1) Review of Friedmann's equations: expansion, spatial curvature, dark matter, dark energy

2) Density perturbations: CMB, initial conditions, gaussianity

3) Relativistic hydrodynamics and Poisson equation

4) Evolution of density perturbations; Jean's equation

5) Correlation functions and power spectrum

6) Numerical simulations (N-body)

7) Nonlinear regime: spherical collapse, Press-Schechter approach

8) Halo model, Halo Occupation Distribution and bias

9) Redshift space distortions

10) Brief review on galaxy surveys