

**Meeting:** 998, Houston, Texas, SS 18A, Special Session on Designing Frames and Wavelets: From Theory to Digitization

998-41-297            **M Zuhair Nashed\*** (znashed@mail.ucf.edu), M. Zuhair Nashed, Department of Mathematical Sciences, University of Central Florida, Orlando, FL 32816-1364. *Interplay between moments problems and average sampling theory.* Preliminary report.

The reconstruction of a function from sampled values and the reconstruction of a function from its moments with respect to a given set of functions are two fundamental problems dealing with reconstruction of a function from direct or indirect information about the function. In this talk we consider these problems in the framework of reproducing kernel Hilbert spaces and Sobolev spaces of negative norms. We discuss the interplay between a modified version of the Backus-Gilbert Method for moment problems and average sampling. We also give some examples and open problems. (Received March 01, 2004)