

**Talk:** Moments

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**Abstract:** Algebra meets analysis first. We will follow from a historical perspective the mathematical context which has prompted Stieltjes to his groundbreaking discoveries referring to the moment problem. Specifically, we will dissect qualitative features of continued fractions and renormalization of divergent series. Following advances due to Hamburger and Hausdorff we will insist on the role of function theory of a complex variable, as developed for moment problem purposes by Carleman and Polya. Then the modern at that time (early XX-th Century) interpretation of measures as positive functionals will lead us to Marcel Riesz and his discoveries. Analysis meets algebra will follow. How the idea of spectral decomposition of hermitian linear transformations has impacted real algebra, again with a touch of complex function theory, a la Schur and Nevanlinna. Some aspects of orthogonal polynomials will also enter into the picture. Finally some recent methods aimed at solving moment problems will be sketched: canonical moments, cumulants, maximal entropy, complete monotonicity. A comprehensive collection of old and new relevant articles will be distributed to the audience.