Analysis Seminar

Title: Optimal polynomial approximants II

Speaker: M. Manolaki

Date: Tue 12th February 2019 at 4:00PM

Location: SCN 125

Abstract: Given a Hilbert space H of analytic functions on the unit disc and a function f in H, a polynomial p_n $is called an optimal polynomial approximant of degree$ n if $1/f$ if p_n minimizes $||pf - 1||$ over all polynomials p of degree at most n. This notion was introduced to investigate the phenomenon of cyclicity in certain function spaces, including the classical Hardy, Bergman and Dirichlet spaces. In this talk, we will discuss the behaviour of the sequence of optimal polynomial approximants on subsets of the unit circle. Our main theorem uses a new result on simultaneous zero-free approximation, which is of independent interest. (Joint work with Catherine Bénéteau, Oleg Ivrii and Daniel Seco.)