1097-30-262 **Rishika Rupam*** (rishika@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77840, and **Mishko Mitkovski** (mmitkov@clemson.edu), Department of Mathematics, Clemson University, Clemson, SC 29632. *The Toeplitz kernel approach in inverse spectral theory of differential operators.*

When does the spectrum of an operator determine the operator uniquely? This question and its many versions have been studied extensively in the field of inverse spectral theory for differential operators. Several notable mathematicians have worked in this area. Among others, there are important contributions by Borg, Levinson, Hochstadt, Liebermann; and more recently by Simon, Gesztezy, del Rio and Horvath, which have further fueled these studies by relating the completeness problems of families of functions to the inverse problems of the Schrödinger operator. In this talk, we discuss the role played by the Toeplitz kernel approach in answering some of these questions, as described by Makarov and Poltoratski. We will also describe some new results using this approach. (Received January 24, 2014)