Titel: Formulas of Szegő type for the periodic Schrödinger operator

Speaker: Bernhard Pfirsch (UC London)

Abstract:
Szegő's limit theorem describes the asymptotic behaviour of Toeplitz determinants as the size of the Toeplitz matrix grows. The continuous analogue are trace asymptotics for Wiener-Hopf operators on intervals of growing length. These asymptotics are of particular interest when the symbol of the Wiener-Hopf operator has jump discontinuities. In this case they were obtained by Landau and Widom in the 1980's. We present an asymptotic trace formula for the periodic Schrödinger operator in dimension one which can be seen as an extension of Landau and Widom's results. The subleading order of the asymptotics identifies the spectrum of the periodic Schrödinger operator. This is joint work with Alexander V. Sobolev.