

**Speaker:** Andy Raich, Texas A&M University

**Title:** Pointwise heat kernel estimates with applications to complex analysis

**Abstract:** I discuss a number of problems in several complex variables whose analysis reduces to the study of a one-parameter family of heat equations in  $\mathbb{R} \times \mathbb{C}$ . I solve the heat equations and find pointwise estimates on the heat kernels and their derivatives. A number of the results are a direct consequence of conversations at the Program in Complex Analysis, Operator Theory, and Applications to Mathematical Physics at ESI Vienna (Fall 2005).