

**Speaker:** Kostas Beros

**Title:** Group homomorphism reductions

**Abstract:** Over the last couple years, I have investigated the properties of a naturally occurring quasi-order on the family of subgroups of a given Polish group. That is, I say that a subgroup  $A$  of a Polish group  $G$  is "group-homomorphism reducible" to another subgroup  $B$ , if it is the pre-image of  $B$  under a continuous group homomorphism. This pre-order grows out of the study of coset equivalence relations on Polish groups and has natural antecedents such as the Rudin-Keisler order on maximal ideals.

To date my results have largely taken the form of demonstrating the existence of maximal (or complete) subgroups in various classes with respect to this quasi-order. I will survey my work so far and indicate possible areas of further exploration.