Speaker: Joseph Zielinski

Title: The complexity of the homeomorphism relation between compact metric spaces

Abstract: For equivalence relations E and F on Polish spaces X and Y, respectively, E is Borel reducible to F when there is a Borel-measurable function from X to Y satisfying xEy iff f(x)Ff(y). H. Becker and A.S. Kechris demonstrated that there are equivalence relations arising from Polish group actions that reduce all other such orbit equivalence relations. Since then, J.D. Clemens, S. Gao, Kechris, J. Melleray, and M. Sabok, have variously shown that the natural relations of isometry between separable complete metric spaces, linear isometry between separable Banach spaces, and isomorphism of separable C*-algebras share the same Borel-reducibility degree with these maximal orbit equivalence relations.
We outline a proof that the relation of homeomorphism between metrizable compact spaces is also Borel bireducible with the complete orbit equivalence relations of Polish group actions.