Characterizing slopes for hyperbolic and torus knots

Speaker: Duncan McCoy, University of Texas
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Abstract: Given a knot $K$ in $S^3$, we say that $p/q$ is a characterizing slope if the oriented homeomorphism type of $p/q$-surgery on $K$ is sufficient to uniquely determine the knot $K$. It is known that for a given torus knot all but finitely many non-integer slopes are characterizing and that for hyperbolic knots all but finitely many slopes with $q > 2$ are characterizing. I will discuss the proofs of both results, which have a surprising amount in common.