Noether-Lefschetz theory for singular threefolds

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In this talk we discuss how techniques used in the study of the geometry of the Noether-Lefschetz locus in even dimension can be used to study the geometry and deformations of singular hypersurfaces in odd dimension. In particular, we explain how one can find short proofs for statements on the minimal number of singularities for threefold X such that $h^4(X) > h^2(X)$.