

# On the topology and index of minimal surfaces

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## Abstract

In this talk we show that for an immersed two-sided minimal surface in  $\mathbb{R}^3$ , there is a lower bound on the index depending on the genus and number of ends. Using this, we show the nonexistence of an embedded minimal surface in  $\mathbb{R}^3$ , of index 2, as conjectured by Choe. Moreover, we show that the index of a immersed two-sided minimal surface with embedded ends is bounded from above and below by a linear function of the total curvature of the surface. This is a joint work with Otis Chodosh.