

Topology: Introduction to Homotopy Groups

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**4:30 - 5:20
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Homotopy theory is a branch of topology that studies spaces up to continuous deformation. For example, by decreasing the radius of a disc, one can shrink it down to a point. Thus a disc is homotopy equivalent to a point, although they are different spaces. By loosening the relation among spaces, homotopy theory studies objects that are more algebraic in nature, and hence more amenable to computations.

This time we will focus more on path homotopy and where we can go with it. Those who enjoy some analysis and knotty proofs are welcome! And those with great patch of patience will be rewarded with a fundamental group :)