

## Non-Hermitian Physics: Using Gain and Loss To Rewrite the Rules of Wave Motion

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Date: 19 February 2022 (Saturday) Time: 1.30pm - 2.30pm Venue: NTU SPMS LT1



## Abstract

Waves passing through certain media can undergo amplification or dissipation, which are "non-Hermitian" processes that increase or decrease the energy carried in the waves. In the simplest case, this just causes the wave to increase or decrease in amplitude as it moves. However, physicists have found ways to create synthetic non-Hermitian media that cause waves to behave in much more unusual and interesting ways. This talk describes several non-Hermitian phenomena, including coherent perfect absorption, parity/time-reversal symmetry, exceptional points, and non-Hermitian Dirac waves.

## Biography

Yidong Chong graduated with a BSc in Physics from Stanford University in 2003, and received a PhD in Physics from MIT in 2008. After working from 2008-2012 as a postdoctoral researcher at Yale University, in 2012 he joined Nanyang Technological University as faculty member. His research interests span a variety of topics in theoretical photonics and condensed matter physics, including topological photonics and non-Hermitian photonics.

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