

# JOINT TUFTS/MIT COSMOLOGY SEMINAR

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## *Our ears are open: Listening to two-body dynamics with gravitational waves*

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For the past few decades, gravitational waves have been described as a tool that would revolutionize astronomy and strong-field gravity by offering a unfettered view of strong-gravity dynamics in environments that are typically dark or shrouded by dense matter. On September 14th, 2015, that promise was finally delivered in spectacular fashion when the advanced LIGO interferometers measured the waves generated by the coalescence of two black holes. In this talk, I will review the basics of gravitational wave detection and generation, and show how the characteristics of strong-field two-body dynamics are imprinted on a binary system's gravitational waves. I will show how GW150914 delivers much of what we have long promised gravitational waves would demonstrate, and discuss what is likely to come in LIGO's next data runs and when sister instruments begin their operations.

Tuesday, April 5, 2016, 2:30 pm  
574 Boston Ave, Room 310  
Tufts University

Refreshments at 2:00 outside room 304