



Faculty of Science Seminars

2017 NOBEL PRIZE IN PHYSICS



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Nobel Prize Series

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How to Shake Empty Space

day	location	time
DEC 6, 2017 WED	SU-01	15:40

ABSTRACT

Einstein taught us a century ago that if you move any mass, you can actually distort space and time, and generate little travelling vibrations called gravitational waves. What is there to vibrate in "empty" space? We will start with a non-technical history of gravity that culminates in Einstein's theory of general relativity to understand the nature of space and time. We will then examine the generation of gravitational waves by various astrophysical systems, their detection using the most sensitive interferometers on Earth, and what we can learn from their analysis. Aside from giving us a new tool to observe the universe, gravitational wave detectors also have the potential to revolutionize our understanding of the fundamental laws of nature.

Fethi Mübin Ramazanoğlu obtained his doctoral degree from Princeton University in 2012. After postdoctoral positions at Princeton University and the University of Cambridge, he has been on the faculty of Koç University since 2015. His research is focused on gravitational physics with particular emphasis on strongly gravitating systems, gravitational waves and numerical relativity.

The Faculty of Science Seminars are designed to address a non-specialist, broad audience and introduce topics of contemporary research through lectures by leading experts. We warmly invite all members of the student body, including undergraduates enrolled in any programme.