Mathematics Colloquium

TITLE	## Can One Hear the Shape of a Drum?
SPEAKER	**Hamid Hezari** **University of California, Irvine, USA**
TIME	**Wednesday, September 28, 2022, 16:00-17:00**
VENUE	**(Zoom Lecture)**

SUMMARY

This talk is about Kac's famous inverse problem from 1966: "can one hear the shape of a drum?" The question asks whether the frequencies of vibration of a bounded domain determine the shape of the domain. First we present a quick survey on the known results. Then we discuss the key connection between eigenvalues of the Laplacian and the dynamics of the billiard, which is governed by the so called "Poisson Summation Formula". Finally we discuss our main theorem that "one can hear the shape of nearly circular ellipses".

This is a joint work with Steve Zelditch.

Zoom-Link: https://us06web.zoom.us/j/85045715425
Meeting-ID: 850 4571 5425

تهران، ضلع جنوبی میدان شهید باهنر (نیاوران)، پژوهشگاه دانش‌های بنیادی، پژوهشکده ریاضیات
School of Mathematics, Institute for Research in Fundamental Sciences (IPM), Niavaran Bldg., Niavaran Square, Tehran
ipmmath@ipm.ir ♦ +98 21 22290928 ♦ math.ipm.ir