

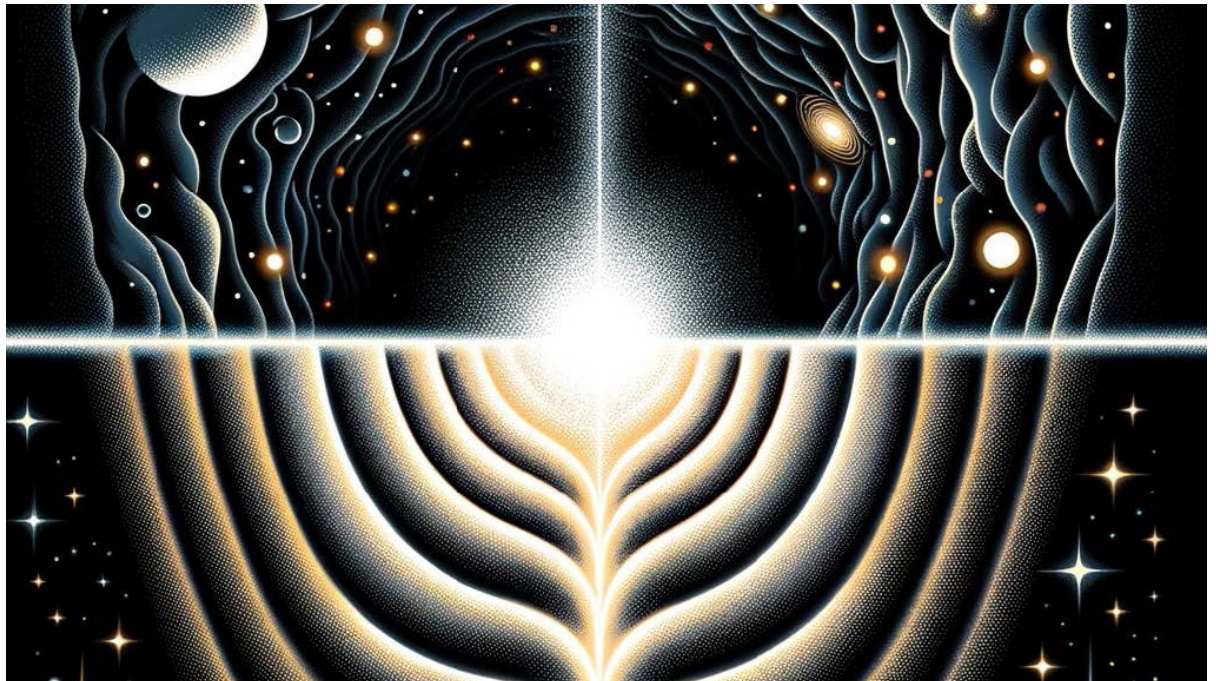


Gianfranco Bertone

Univ. of Amsterdam/Columbia

April 15, 2024 at 3:30 pm in SPL 57

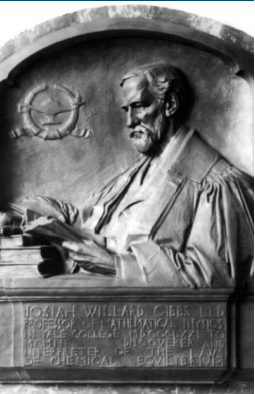
Gravitational Wave Probes of Dark Matter



I will start with an overview of the status of dark matter searches and of the prospects for uncovering its nature in the next decade. I will then focus on the interplay between dark matter, black holes, and gravitational waves, and discuss the prospects for characterizing and identifying dark matter using gravitational waves, covering a wide range of candidates and signals. Finally, I will present some new results on the detectability of dark matter overdensities around black holes in binary systems, and argue that future interferometers may enable precision studies of the dark matter distribution and particle properties.

Host: Reina Maruyama

Connection info: <https://yale.zoom.us/j/93660628074>; Password: 595687



Physics Club is a weekly colloquium of general interest to the Department of Physics, Applied Physics, Astronomy, and Mathematics. The series is aimed at graduate students, postdoctoral researchers, research staff and faculty. The name dates to the late 1890s, the era of J Willard Gibbs, who influenced the intellectual life at Yale through a number of "graduate clubs". Physics Club is sponsored by the Yale Physics Department and Yale University.