

**The Weizmann Institute of Science
Faculty of Mathematics and Computer Science**

Special Guest Seminar

Room 155, Ziskind Building
on Thursday, Jun 13, 2024
at 13:30

Sergiu Klainerman
Princeton

will speak on

Are black holes real – a mathematical perspective

Abstract:

Given that black holes are by definition not directly observable, physicists had to devise indirect techniques to test their reality. These efforts were recognized by 6 Nobel prizes in 2017 and 2020. The last three laureates included R. Penrose, cited for his famous singularity theorem, a real and strikingly beautiful mathematical proof. That recognition illustrates the role of mathematics in testing the reality of physical objects by proving or disproving specific mathematical conjectures. In my talk I will address the issue of the stability of Kerr black holes, another precise conjecture that can be decided by pure mathematical techniques.