Abstract:
One of the most mysterious objects in the universe are black holes. Historically, the prediction of existence of such an object goes back to the 18th century but immediately after the development of the theory of general relativity by Einstein in 1915, the first explicit solution describing a black hole was found by Schwarzschild in 1916. In the last century, mathematicians from different branches such as geometry, topology and analysis have been interested in problems arising from black holes. In this talk I will give an introduction to mathematical aspects of black holes.