Hawking’s proposal that black holes radiate suffers from difficulties both theoretical (Trans-Planckian problem) and experimental (black holes small enough to see the effect are in short supply).

In 1980 I discovered that analog systems could also emit thermal radiation by exactly the same arguments as Hawking used for black holes. In the past 20 years various proposals for experiments to show that the effect actually occurs in such analog systems have been carried out. These tabletop experiments have shown that the radiation is thermal and probably is quantum. This talk will look at what the problem is and what the experiments are.

Professor William Unruh
University of British Columbia