Analogue Gravity: an overview of recent experiments

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The original idea behind Analogue Gravity, proposed by Unruh in 1981, was to mimick black holes and curved spacetime effects in the laboratory. Now, almost 40 years later, a few experiments have been set up in different systems (both classical and quantum) and effects like Hawking radiation and superradiance have been observed. In this talk I'll give an overview of the most important experimental results in Analogue Gravity so far. While there are several limitations on what can be extrapolated from the experiments and applied to Gravity, one can nevertheless use known results and ideas from General Relativity to make predictions in condensed matter Physics. In particular, I'll present a new idea, inspired by black hole Physics, to relate geodesic motion and light rings in curved spacetimes to the properties of a (super)fluid flow.