Black holes can be found in numerous astronomical objects, ranging from mini-black holes found in gravitational lensing events, through the black holes of about 10 solar mass in binary stars observed in our Galaxy and in nearby galaxies, and exploding as gamma-ray bursters, up to supermassive black holes of a million to billions of solar mass reside in quasars. Inflowing plasma dissipates its gravitational potential energy which leads to strongly variable emission observed in all energy bands, from radio to gamma-rays. Recently, a progress in direct imaging of black holes and in monitoring of the time-dependent behavior of accreting sources opens a way for excellent modelling of the flow dynamics. This is the aim of the proposed collaboration.