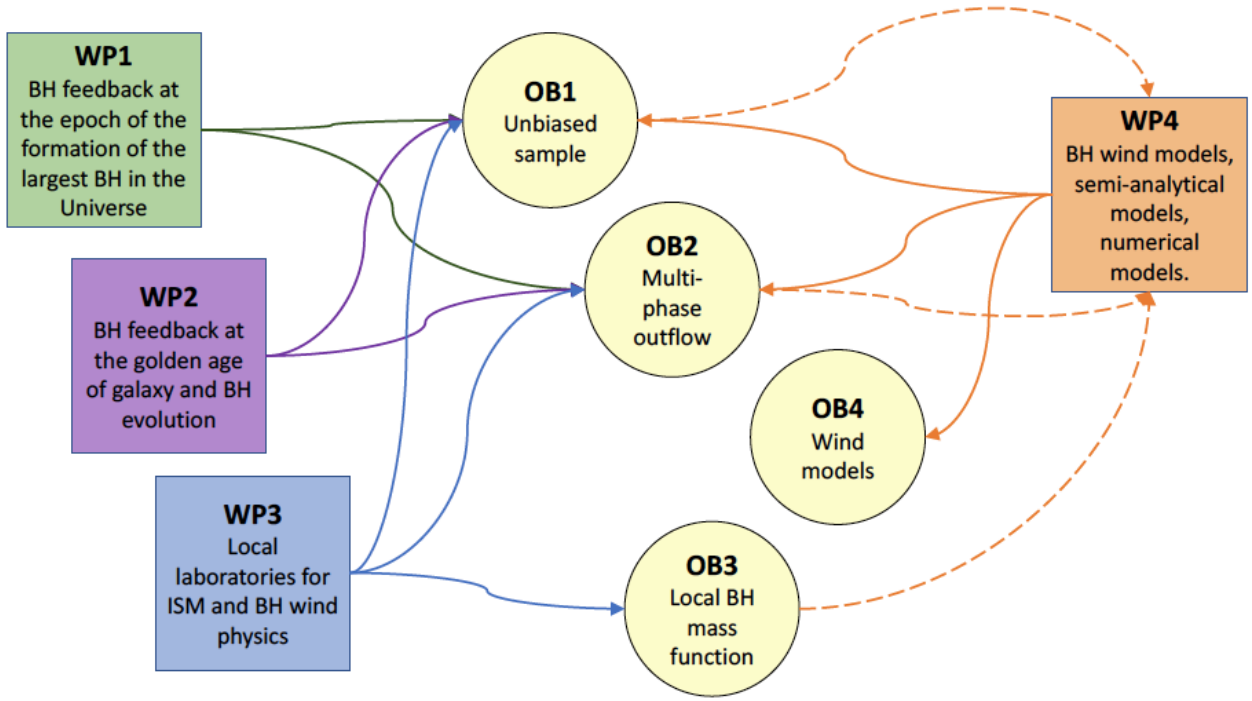
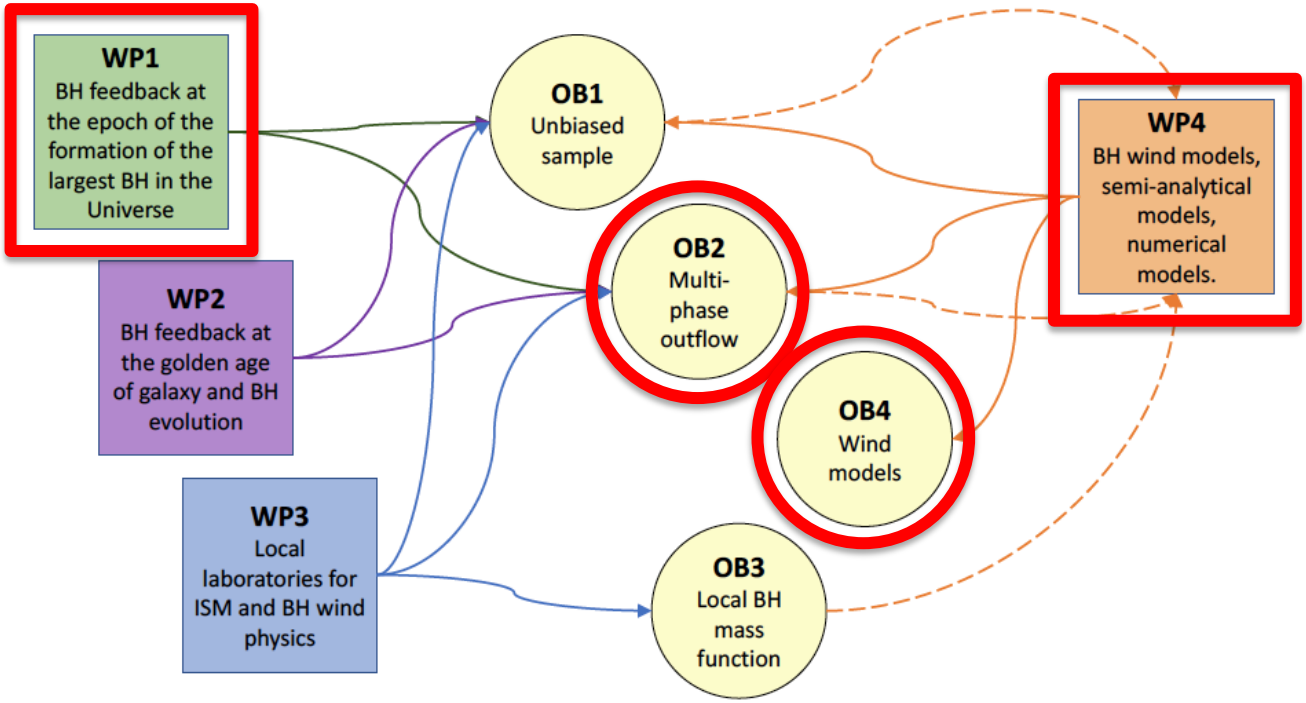
Workflow of the Blackout program



SNS contribution to the Blackout program

Suite of cosmological hydro-dynamical (radiative transfer) simulations of high redshift ($z \geq 6$) AGN



On-going and planned projects

1) Cosmological hydro-dynamical simulations with different *kinetic feedback* models

OBJs:

- To study the impact of AGN *kinetic feedback* on the host galaxy phisical properties
  RESULTS: Barai et al. 2018, B18 ← PRIN INAF 14 (PI: F. Fiore)

- To study the impact of different AGN kinetic feedback on the environment
  RESULTS: Zana et al. In preparation

- To compute synthetic X-ray maps and spectra
  RESULTS: Vito et al. in preparation

2) Dust radiative transfer calculations (based on B18)

OBJ:

- To study the impact of AGN feedback on the host galaxy observational properties
  (in the continuum at wavelengths observable with JWST, SPICA, ALMA)

- To envisage observational strategies to search for z> obscured AGN
  RESULTS: Di Mascia et al. in preparation

On-going and planned projects

3) High-resolution hydro-dynamical simulations with different *thermal feedback* models

OBJs:

- To study the impact of AGN *thermal feedback* on the host galaxy phisical properties

- To quantify the amount of neutral/ionized/molecular gas in the quasar host
  RESULTS: Valentini et al. in preparation (V20)

4) Radiative transfer simulations including ionizing photons and dust (based on V20)

OBJs:

- To compute [CII], CO, X-ray emission maps (Fabio Vito: post-doc on Blackout funds)