

## ET-WST synergy for next generation multi-messenger observations

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The Einstein Telescope (ET) will be an innovative next generation gravitational wave (GW) interferometer. With ET it will be possible to detect thousands of binary neutron star systems mergers (BNS) per year, up to  $z > 3$ . The corresponding electromagnetic (EM) counterparts will likely be faint and to be searched in the large error regions of ET GW signals. Beyond the detection, the bottle neck of multi-messenger (MM) science will be to gather spectroscopic data to identify and characterize EM counterpart candidates. Integral Field Spectroscopy and Multi-Object Spectroscopy, traditionally used for galaxy surveys, can play a key role to achieve this goal. I will talk about the study that I am carrying out on the synergy of ET and the Wide-field Spectroscopic Telescope on the next generation MM observations. I will present the results of the predictions of spectroscopic observations of kilonovae and gamma-ray burst afterglows associated to simulated BNS events detected by ET.

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