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## Le grandi prospettive scientifiche di LISA

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Galaxy mergers play a key role in the growth of supermassive black holes (SMBHs), yet a complete census of dual and binary AGN remains a major observational challenge. These systems are the electromagnetic precursors to SMBH mergers, prime targets for LISA. Multi-messenger astronomy, combining low-frequency gravitational wave observations with electromagnetic data, enables unique tests of astrophysics and cosmology. Realizing this potential depends on LISA's ability to localize sources during their inspiral down to coalescence, and on next-generation telescopes to rapidly and deeply scan the relevant sky regions. This talk will highlight current multi-wavelength efforts to identify and characterize SMBH pairs and their critical role in the era of gravitational wave Astrophysics.

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**Session Classification:** L'astronomia multimessenger verso il futuro: ET, LISA, IceCube, KM3NeT e ...i fotoni (chair: S. Zaggia)