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Abstract for an Invited Paper for the APR20 Meeting of the American Physical Society

## LIGO/Virgo and the Promise of Multi-Messenger Observations LAURA CADONATI, Georgia Tech

Following the groundbreaking discoveries of gravitational wave events GW150419 and GW170817, we are shaping a new era of Physics and Astronomy in which gravitational waves, photons and neutrinos combine to provide multi-sensory vision, probing celestial bodies not seen before, revealing missing chapters in the story of the Universes birth and development, and posing unexpected challenges and riddles. In this talk I will discuss the potential for multi-messenger observations that include gravitational waves with current and future detectors over the next couple of decades, and what the combined data can teach us about the Universe.