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Astrophysical Lessons from LIGO/Virgo's Black Holes

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LIGO/Virgo have detected ten binary black holes in their first two observing runs, with several new detections in O3. In this talk, I will review what these detections have taught us about the astrophysical population of binary black holes. I will discuss what we have learned about the pair-instability mass gap in the black hole mass spectrum, black hole spins, the mass ratios of merging binaries, and the redshift evolution of the merger rate. Measuring these population properties enables us to discriminate between black hole formation mechanisms.