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New vistas in binary black holes

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Our understanding of binary black hole systems has been growing in a spectacular fashion at theoretical and, since 2015, observational levels. Progress will continue to accelerate in the coming years which will further push our understanding of astrophysics and gravity itself. This talk will discuss a few successful examples on the theory/simulation front as well as challenges in the 'near horizon' that should be met to enhance the scientific payoff of exciting data to come.