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Formation, evolution, and merging: the MQ point of view

Microquasars (MQs) – binary systems which host compact objects accretion from stellar companions – offer a unique window into the physics of accretion, jet launching, and the life cycles of massive stars. In this talk, I will review the formation and evolutionary pathways leading to MQs primarily from the perspective of binary stellar evolution. Using insights from detailed simulations and population synthesis studies, I will discuss how the physics of mass transfer, common envelope evolution, and core-collapse supernovae impact the observable properties of MQs and other connected populations such as X-ray binaries and gravitational-wave sources. Finally, I will explore how current and upcoming multiwavelength and multi-messenger observations can constrain these formation channels and the physics of binary evolution.

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