

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## Open heavy-flavour production from small to large collision systems with ALICE at the LHC

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Heavy flavours are effective probes of the hot and dense matter, the Quark-Gluon plasma (QGP), produced in ultra-relativistic heavy-ion collisions. Due to the very short time scale characterising their production, they experience the whole evolution of the system. In particular, measurements of heavy-flavour production in Pb-Pb collisions at the LHC energies, including nuclear modification factors, give insight on the mechanisms of heavy-quark transport and energy loss in the hot and dense QCD matter.

In small hadronic systems like pp and p-Pb, heavy-flavour production provides the baseline for observations of hot-medium effects in heavy-ion collisions, as well as tests of perturbative QCD and measurements of cold-matter effects in the nuclear medium. On top of that, heavy-flavour measurements in small systems recently gained additional interest due to the possibility of observing specific initial- and final-state effects affecting the production mechanisms, driven by the particle multiplicity acting as an effective scaling parameter.

In this contribution, ALICE results on open heavy-flavour production in pp, p-Pb and Pb-Pb collisions at various energies will be discussed. New measurements will be presented both for fully-reconstructed charmed mesons and for single electrons and single muons from heavy-flavour hadron decays.

### Collaboration (if applicable)

ALICE

### Track

Heavy Flavor and Quarkonia

### Contribution type

Contributed Talk

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