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Type: **Parallel session**

## Multiple boson production at high-energy muon colliders to probe the Higgs-muon coupling

*Friday, 1 December 2023 09:40 (15 minutes)*

We discuss the capabilities of a high-energy muon collider of discovering (or constraining) anomalous Yukawa interactions of the muon with the Higgs boson. We use a general approach based on two different Effective-Field-Theory frameworks, HEFT and SMEFT. We analyse a large class of processes involving both multi Higgs and/or vector boson production, both for a 3 and 10 TeV machine. We also discuss bounds due to unitarity arguments from processes with very large multiplicities in the final state and/or large collision energies. Our study provides quantitative statements on the potential of a muon collider for studying in detail the interaction of the Higgs boson with the muon.

### You are

non-PhD student

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**Session Classification:** Parallel: Future

**Track Classification:** Future colliders and experiments (including projections)