



Contribution ID: 92

Type: **talk**

## From gravitating Skyrmions to QCD at finite density and back

*Monday 1 September 2025 15:50 (50 minutes)*

In the present talk I will describe the first analytic example of a gravitating Skyrmion of unit Baryonic charge in General Relativity minimally coupled to Skyrme model in  $(3+1)$  dimensions. I will describe the remarkable properties of this analytic solution and how such gravitating soliton gave rise to the first analytic solutions with non-vanishing Baryonic charge of the Skyrme model on flat space-times (clarifying why it is easier to solve the Einstein-Skyrme field equations rather than the Skyrme equations alone). At the end, I will describe the explicit construction of Euclidean wormholes of Baryonic charge 1 in the Euclidean version of Einstein Skyrme theory and their interpretation as Instantons of the theory

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**Session Classification:** Afternoon