Contribution ID: **106** Type: **Oral**

High-dimensional data visualisation with the grand tour

Monday, November 4, 2019 12:00 PM (15 minutes)

In physics we often encounter high-dimensional data, in the form of multivariate measurements or of models with multiple free parameters. The information encoded is increasingly explored using machine learning, but is not typically explored visually. The barrier tends to be visualising beyond 3D, but systematic approaches for this exist in the statistics literature. I will use examples from particle and astrophysics to show how we can use the "grand tour" for such multidimensional visualisations, for example to explore grouping in high dimension and for visual identification of multivariate outliers. I will then discuss the idea of projection pursuit, i.e. searching the high-dimensional space for "interesting" low dimensional projections, and illustrate how we can detect complex associations between multiple parameters.

Consider for promotion

No

Primary author: LAA, Ursula (Monash University)

Presenter: LAA, Ursula (Monash University)

Session Classification: Track 6 – Physics Analysis

Track Classification: Track 6 – Physics Analysis