

## The Coarsening of Folds in Hanging Drapes

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**Abstract:** In this talk I will discuss shape of a hanging drape - a thin elastic sheet, pulled down by the force of gravity, with fine-scale folding at the top that achieves approximately uniform confinement. This example of energy-driven pattern formation in a thin elastic sheet is of particular interest because the length scale of folding varies with height. I will focus on how the minimum elastic energy depends on the physical parameters, and will explain that self-similar coarsening achieves the optimal scaling law in a certain parameter regime, and that constructions (involving lateral spreading of the sheet) do better in other regions of parameter space. This is based on a joint work with Robert V. Kohn.