

Higher-dimensional analogues of cluster structures

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I will discuss higher-dimensional analogues of cluster structures in two parallel contexts: replacing a disk by a 2d-dimensional ball, and replacing the cluster category by a 2d-CY generalized cluster category.

We obtain a bijective correspondence between triangulations and a natural class of cluster tilting objects. Various familiar features have interpretations on both sides of the correspondence, while other features (notably, an analogue of the cluster algebra itself) are still missing.

This talk is partly based on joint work with Steffen Oppermann ([arXiv:1001.5437](https://arxiv.org/abs/1001.5437)) and partly on subsequent work joint with Steffen Oppermann and Charles Paquette.