

## Abstract

This talk centers around recent progress on understanding the metric geometry of Calabi-Yau manifolds (Ricci-flat Kaehler) along an algebraically degenerating family.

As complex structures degenerate, Calabi-Yau manifolds may collapse to lower dimensional metric spaces in the Gromov-Hausdorff sense with complicated singular behavior and multi-scale bubbling phenomena. In the case of a family of Calabi-Yau hypersurfaces degenerating into the transversal union of two Fano hypersurfaces, we obtain a complete result in all dimensions establishing explicit and precise relationships between the metric collapsing and complex structure degenerations. It is worth emphasizing that, as the complex structures degenerate, such correspondence is discovered for the first time in the literature.