

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

## GEOMETRIC ANALYSIS OF COLLAPSING CALABI-YAU SPACES

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October 2, 2019, 4:00 – 5:00pm  
Math/Computer Science, Room B39  
111 Cummington Street, Boston

Tea: 3:45pm in Room B24

**Abstract:** This talk centers on the degenerations of Calabi-Yau metrics. We will focus on the interactions between algebraic degenerations and metric convergence with highly singular behaviors in the collapsed context. As the complex structures degenerate, the collapsing Calabi-Yau metrics may exhibit various wild geometric properties with highly non-algebraic features.

First, as motivating examples, we will describe our recent results on the new collapsing mechanisms of K3 surfaces. Next, we will switch to higher dimensions and we will exhibit some entirely new constructions of degenerating Calabi-Yau metrics which are expected to work in more broader contexts. Complex structures degeneration will be accurately characterized by the bubbling and singularity analysis in a geometric manner.

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin ([yslin@bu.edu](mailto:yslin@bu.edu)) or Siu-Cheong Lau ([lau@math.bu.edu](mailto:lau@math.bu.edu)) for more information.