



# ODTU-Bilkent Algebraic Geometry

## Holomorphic anomaly equations for $C^n/Z_n$

By

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**Abstract:** In this talk, we present certain results regarding the higher genus Gromov-Witten theory of  $C^n/Z_n$  obtained by studying its cohomological field theory structure in detail. Holomorphic anomaly equations are certain recursive partial differential equations predicted by physicists for the Gromov-Witten potential of a Calabi-Yau threefold. We prove holomorphic anomaly equations for  $C^n/Z_n$  for any  $n \geq 3$ . In other words, we present a phenomenon of holomorphic anomaly equations in arbitrary dimension, a result beyond the consideration of physicists. The proof of this fact relies on showing that the Gromov-Witten potential of  $C^n/Z_n$  lies in a certain polynomial ring. This talk is based on the joint work arXiv:2301.08389 with Hsian-Hua Tseng.

**Date:** 17 November 2023, Friday

**Time:** 15:40 (GMT+3)

**Place:** Zoom

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