



**THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY**

**Department of Mathematics**

**SEMINAR ON PURE MATHEMATICS**

**The Andersen-Kashaev volume conjecture for  
FAMED geometric triangulations**

by

**Dr. WONG Ka Ho**  
**Yale University**

**Abstract**

In early 2010s, Andersen and Kashaev defined a TQFT based on quantum Teichmuller theory. In particular, they define a partition function for every ordered ideal triangulation of hyperbolic knot complement in  $\mathbb{S}^3$  equipped with an angle structure. The Andersen-Kashaev volume conjecture suggests that the partition function can be expressed in terms of a Jones function of the knot which, in its semi-classical limit, decays exponentially with decay rate the hyperbolic volume of the knot complement. In this talk, we will introduce a purely combinatorial condition on triangulations which, together with the geometricity of the triangulations, imply the Andersen-Kashaev volume conjecture and its generalization. This talk is based on the joint work with Fathi Ben Aribi.

**Date : 05 August 2025 (Tuesday)**

**Time : 3:00p.m.-4:30p.m.**

**Venue : Room 5508 (Lift 25/26)**

*All are Welcome!*