THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

GEOMETRY SEMINAR

Deformation Space of Circle Patterns

Dr. Wai-Yeung Lam
University of Luxembourg

Abstract

William Thurston proposed regarding the map induced from two circle packings in the plane with the same tangency pattern as a discrete conformal map. A discrete analogue of the Riemann mapping is deduced from Koebe-Andreev-Thurston theorem. One question is how to extend this theory to Riemann surfaces and relate classical conformal structures to discrete conformal structures. Since circles are preserved under complex projective transformations, it is natural to consider circle packings on surfaces with complex projective structures. Kojima, Mizushima and Tan conjectured that for a given combinatorics the deformation space of circle packings is homeomorphic to the Teichmueller space. In this talk, we report its progress and explain its connection to discrete harmonic functions. Particularly, we extend the conjecture for the Weil-Petersson class in the universal Teichmueller space.

Date:	January 30, 2024 (Tuesday)
Time:	4:00 – 5:00pm
Venue:	Rm 210, Run Run Shaw Bldg., HKU

All are welcome