



Department of Mathematics

香港城市大學
City University of Hong Kong

ONLINE Colloquium

DEPARTMENT OF MATHEMATICS

City University of Hong Kong

Temporal high-order structure-preserving parametric finite element methods for curvature flows

by

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Date: 6 May 2025 (Tuesday)

Time: 4:00 – 5:00 pm

ABSTRACT

Firstly we propose a series of temporal high-order parametric finite element methods to simulate curvature flows. Particularly, for those flows with multiple geometric structures, e.g., surface diffusion which decreases the area and preserves the volume, we propose a type of structure-preserving methods by incorporating two scalar Lagrange multipliers and two evolution equations involving the area and volume, respectively. These schemes can effectively preserve the structure at a fully discrete level. Extensive numerical experiments demonstrate that our methods achieve the desired temporal accuracy, as measured by the manifold distance, while simultaneously preserving the geometric structure of the surface diffusion.

Register in advance for this talk:

<https://cityu.zoom.us/meeting/register/CkcRwbhPRmWx0KQ2iixzeA>

[Zoom link will be provided via email after registration.]

~ALL ARE WELCOME~

