



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學



DEPARTMENT OF APPLIED MATHEMATICS

應用數學系

**The Hong Kong Polytechnic University  
Department of Applied Mathematics**

**Seminar**

**Fluid defomable surfaces, the influence of surface viscosity in fluid membranes**

**By**

**Prof. Axel VOIGT  
Technische Universität Dresden**

**Abstract**

We consider a fluid-solid duality of membranes, with in-plane fluid properties and out-of-plane solid (bending) properties. In such systems any tangential flow induces shape deformationas and any change in morphology induces tangential flow. This numerically challanging surface problem is solved by surface finite elements and we explore the dynamics towards equilibrium states in various settings, ranging from transitions from biconcave to dumbbell shapes, coarsening of two-component surface fluids under the influence of curvature and wrinkling in fluid membranes.

**Date: 19 April 2023 (Wednesday)**

**Time: 16:00-17:00 (Hong Kong Standard Time GMT +8)**

**Venue: Online Talk via Zoom (Meeting ID: 917 2001 9732; Passcode: 0419)**

**Speaker: Prof. Axel Voigt, Technische Universität Dresden**

**Host: Prof. Zhonghua Qiao, The Hong Kong Polytechnic University**

**Click to join:**

**<https://polyu.zoom.us/j/91720019732?pwd=R3hvWVVGc0FiRFRBL1VFNzNkazBndz09>**



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