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Joint Harvard-CUHK-YMSC Differential Geometry Seminar

Some remarks on contact Calabi-Yau 7-manifolds

Abstract: In geometry and physics it has proved useful to relate G2 and Calabi-Yau geometry via circle bundles. Contact Calabi-Yau 7-manifolds are, in the simplest cases, such circle bundles over Calabi-Yau 3-orbifolds. These 7-manifolds provide testing grounds for the study of geometric flows which seek to find torsion-free G2-structures (and thus Ricci flat metrics with exceptional holonomy). They also give useful backgrounds to examine the heterotic G2 system (also known as the G2-Hull-Strominger system), which is a coupled set of PDEs arising from physics that involves the G2-structure and gauge theory on the 7-manifold. I will report on recent progress on both of these directions in the study of contact Calabi-Yau 7-manifolds, which is joint work with H. Sá Earp and J. Saavedra.

By
Professor Jason D. Lotay
University of Oxford

Date:	**October 13, 2021 (Wednesday)**
Time:	**4:00pm – 5:00pm (Hong Kong Time)**
Zoom Link:	**https://cuhk.zoom.us/j/91936025861**
	(Meeting ID: 919 3602 5861; Passcode: 20211013)

All are Welcome