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# Hong Kong Geometry Colloquium

**September 10, 2016 (Saturday)**  
**Room 502A, Academic Building No. 1, CUHK**

Organizers: Professor Conan LEUNG and Professor Martin LI

## Singularities of Special Lagrangians

by  
*Professor Yohsuke IMAGI*  
Kavli IPMU  
at  
**10:00am – 11:00am**

**Abstract:** The study of singularities of special Lagrangians is a difficult but important subject both in string theory and in differential geometry concerning Strominger-Yau-Zaslow's conjecture, a problem of counting special Lagrangian spheres and a relationship to Fukaya categories. I will talk about simple singularities of special Lagrangians for which the "gluing" technique may be used to construct smoothings of singularities. One of the next tasks is to prove the uniqueness of the smoothing which I have been studying.

## Coassociative 4-folds via gluing

by  
*Professor Jason LOTAY*  
University of College London  
at  
**11:20am – 12:20pm**

**Abstract:** Coassociative 4-folds are important from the viewpoint of minimal submanifolds, gauge theory and  $G_2$  geometry. Two key challenges are the construction of coassociative 4-folds, given the lack of known examples, and the understanding of singularities, given that singular fibres are needed for potential coassociative fibrations which are hoped to play an analogous role to SYZ fibrations of Calabi-Yau 3-folds. I will discuss some work towards understanding these issues by gluing constructions.

\* There will be a tea break at 11:00am-11:20am and lunch at 1:00pm-2:30pm  
\* This is part of the MIST VII and it is supported by Programme of Geometric Analysis

*All are Welcome!*