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**The Hong Kong University of Science and Technology**

**Department of Mathematics**

**Seminar on Applied Mathematics**

**Recent Development of Multivariate Splines**

By

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**Abstract**

I first summarize the results on multivariate splines, how to define them and use them easily. Then I will give some examples for numerical solution of PDE, scattered data interpolation/fitting, image analysis, and statistical applications. I will explain a numerical solution of diffusion-reaction equation and simulation of real data for malaria study. Finally I will explain how to construct them over a collection of polygons. Both continuous and  $C^1$  smooth polygonal splines will be discussed based on generalized barycentric coordinates (GBC). Some higher order convergence will be shown.

***Date: Monday, 26 June 2017***

***Time: 1:30p.m. – 3:00p.m.***

***Venue: Room 5510, Academic Building  
(near Lifts 25&26), HKUST***

***All are welcome!***