

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

Colloquium

On the optimal control of variational-hemivariational inequalities

By

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Abstract

In this talk, we focus on an elliptic variational-hemivariational inequality in Banach space. We prove a continuous dependence of the solution with respect to a parameter which appears in all the data of the problem, including the set of constraints, the nonlinear operator and the two functionals which govern the variational-hemivariational inequality. This allows us to consider a general associated optimal control problem for which we prove the existence of optimal pairs, together with a new convergence result. The mathematical tools developed are useful in the analysis and control of a large class of boundary value problems which, in a weak formulation, lead to elliptic variational-hemivariational inequalities. To provide an example, we illustrate our results in the study of an inequality which describes the equilibrium of an elastic body in frictional contact with a foundation made of a rigid body covered by a layer of soft material.

Date : 13 May, 2020 (Wednesday)

Time : 15:00-16:00

Venue: Online Talk via Zoom

*** The Talk will be given in English.**

***** ALL ARE WELCOME *****

For enrolment, please send your name and email (zoom's account) to chingching.lu@polyu.edu.hk on or before 12 May 2020, Tuesday.