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Fundamental Group -the Intertwine of Arithmetic and Geometry

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<u>Abstract</u>

In this talk I am going to present the beautiful theory of fundamental groups in algebraic and arithmetic geometry. I will start by recalling the fundamental group of a topological space and the Galois group of a field. Then I will explain a striking analogy between these two groups which come from geometry and number theory respectively. Next, I will introduce the étale fundamental group in algebraic arithmetic geometry which is an analogy of the topological fundamental group and which is a generalization of the Galois group. Finally, I will explain Grothendieck's anabelian program which arises naturally from the study of fundamental groups, and then I will present a recent result of M. Romagny, F. Tonini, and me in this direction.

Date: 16 April 2018 (Monday)
Time: 11:00am – 12:00noon
Venue: Room 219, Lady Shaw Building, The Chinese University of Hong Kong, Shatin

All are Welcome