# 第01回 古谷 賢朗

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- 題目 : Grushin type operators and the heat kernel
- 日時 : 平成30年5月9日（水）16:30 ～ 17:30
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**abstract**

I introduce a class of second order (positive) sub-elliptic operators in relation to submersions and discuss the construction of their Green function and heat kernel. In general, it is not easy to construct both of them in an explicit form in terms of special functions, or rather such class will be highly restricted.

In this talk, based on an intuitive understanding of the heat kernel (= heat flows along all the paths) I construct an action function for a lowest dimensional family of higher step Grushin type operators following complex Hamilton-Jacobi method (this was named by Beals-Gaveau-Greiner). If I have a time, I will mention possible cases for which we can obtain an explicit formula of the Green function, but not heat kernel.

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5 images