

**Lie Groups and Representation Theory Seminar &  
Tuesday Seminar on Topology  
at the University of Tokyo**

リー群論・表現論セミナー & トポロジー火曜セミナー

- DATE April 26 (Tue), 2011, 16:30–18:00
- PLACE Room 056, Graduate School of Mathematical Sciences
- SPEAKER **Taro Yoshino** (吉野太郎) (the University of Tokyo)
- TITLE Topological Blow-up representations
- ABSTRACT Suppose that a Lie group  $G$  acts on a manifold  $M$ . The quotient space  $X := G \backslash M$  is locally compact, but not Hausdorff in general. Our aim is to understand such a non-Hausdorff space  $X$ . The space  $X$  has the crack  $S$ . Roughly speaking,  $S$  is the causal subset of non-Hausdorffness of  $X$ , and especially  $X \setminus S$  is Hausdorff.
- We introduce the concept of ‘topological blow-up’ as a ‘repair’ of the crack. The ‘repaired’ space  $\tilde{X}$  is locally compact and Hausdorff space containing  $X \setminus S$  as its open subset. Moreover, the original space  $X$  can be recovered from the pair of  $(\tilde{X}, S)$ .