

# Lie Groups and Representation Theory Seminar at the University of Tokyo

リ一群論・表現論セミナー

- DATE October 30 (Wed), 2019, 16:30–18:00
- PLACE Room 128, Graduate School of Mathematical Sciences
- SPEAKER **Quentin Labriet** (Reims University)
- TITLE On holographic transform
- ABSTRACT In representation theory, decomposing the restriction of a given representation  $\pi$  of a Lie group  $G$  to an appropriate subgroup  $G'$  is an important issue referred to as a branching law. In this context, one can define symmetry breaking operators, as  $G'$ -intertwining operators between the restriction  $\pi|_{G'}$  and its irreducible components. Going in the opposite direction gives rise to holographic operators and the notion of holographic transform.
- I will illustrate this construction by two examples :
- the diagonal case where one considers the restriction problem for  $\pi$  being an outer product of two holomorphic discrete series representations,  $G = SL(2, R) \times SL(2, R)$  and  $G' = SL(2, R)$ .
  - the conformal case for the restriction of a scalar valued holomorphic discrete series representation  $\pi$  of  $G = SO(2, n)$  to  $G' = SO(2, n - 1)$ .
- I will then explain different methods for an explicit construction of such holographic operators in these cases, and present some of my results and open problems in this direction.