

# Sophia University

## Mathematics Colloquium

**When:** Friday, December 16, 2016, 17:15-18:30

**Where:** Room No. 201, Main Bldg., Ichigaya-Campus

**Speaker:** Soma Purkait (Research Assistant, Sophia University)

**Title:** Minus Space of Half-Integral Weight Forms

**Abstract:** Let  $M$  be odd and square-free. There is a Hecke isomorphism between  $S_{k+1/2}(4M)$  and  $S_{2k}(2M)$  under which Kohnen's plus new space  $S_{k+1/2}^{+,new}(4M)$  maps Hecke isomorphically to  $S_{2k}^{new}(M)$ . It is natural to look for a subspace of  $S_{k+1/2}(4M)$  that maps Hecke isomorphically to  $S_{2k}^{new}(2M)$ . We identify such a subspace and call it the "minus space" at level  $4M$ . In an analogy with our work in the integral weight setting we show that our minus space is characterized as a common eigenspace of certain finite set of operators coming from genuine Hecke algebra of  $\widetilde{SL}_2(\mathbb{Q}_p)$  modulo certain subgroups. This is a joint work with Prof. E. M. Baruch.