

Ofer GABBER  
gabber@ihes.fr

**Title:** *Remarks on big Cohen-Macaulay algebras and on ramification over log-regular rings*

**Abstract:** I will discuss recent perfectoid techniques, joint work with L. Ramero, constructions of weakly functorial big Cohen-Macaulay algebras, the direct summand conjecture over log-regular rings, a derived variant of the monomial conjecture, and statements on ramified extensions of log-regular rings which in the case of a finite generically étale extension  $B$  of a regular ring  $A$  give that the diagonal idempotent in  $B_K \otimes_K B_K$ ,  $K = \text{Frac}(A)$ , lifts to  $\text{Hom}_A(B, A) \otimes \text{Hom}_A(B, A)$ .