The reconstruction problem for infinite graphs

FLORIAN LEHNER

(in collaboration with N. Bowler, J. Erde, P. Heinig and M. Pitz)

Department of Mathematics, University of Hamburg, Hamburg, Germany

An important open question in the theory of finite graphs is whether it is possible to reconstruct any large enough finite graph from the family of subgraphs which can be obtained by removing individual vertices. The same problems for various classes of infinite graphs, such as trees or locally finite connected infinite graphs, has also remained open for the last few decades. We resolve these questions about infinite graphs by exhibiting locally finite trees which are not reconstructible.