

---

**KLAVDIJA KUTNAR**, University of Primorska  
*Hamilton paths of cubic vertex-transitive graphs*

In 1969 Lovasz posed the problem of constructing a vertex-transitive graph without a Hamilton path. After 50 years no such graph has been found. Only five known vertex-transitive graphs without a Hamilton cycle (but with a Hamilton path) exist:  $K_2$  and four cubic graphs (the Petersen graph, the Coxeter graph, and two graphs obtained from these by replacing each vertex with a triangle). Therefore concentrating on cubic graphs is a reasonable starting point for Lovasz's problem.

In this talk I present recent ideas, and partial results regarding construction of Hamilton cycles in cubic vertex-transitive graphs with a primitive automorphism group.