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Linyuan Lu*, Department of Mathematics, University of South Carolina, 1523 Greene Street, Columbia, SC 29208. *Explicit construction of small Folkman graphs.*

A Folkman graph is a K_4 -free graph G such that if the edges of G are 2-colored then there exists a monochromatic triangle. Erdős offered a prize on proving the existence of a Folkman graph with at most 1 million vertices. In this talk, we present a novel way to construct “small” Folkman graphs. In particular there exists a Folkman graph on 9697 vertices, which is further improved to 941 by Dudek and Rodl recently. (Received February 07, 2008)