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Michael Young* (myoung@iastate.edu), Ames, IA 50011. *Polychromatic colorings of the hypercube*. Preliminary report.

Given a graph G which is a subgraph of the n -dimensional hypercube Q_n , an edge coloring of Q_n with $r \geq 2$ colors such that every copy of G contains every color is called G -*polychromatic*. Originally introduced by Alon, Krech and Szabó in 2007 as a way to prove bounds for Turán type problems on the hypercube, polychromatic colorings have proven to be worthy of study in their own right. This talk will survey what is currently known about polychromatic colorings and introduce some open questions. In addition, there are some natural generalizations and variations of the problem that will also be discussed. (Received February 08, 2016)