Almost all 5-regular graphs have an edge orientation in which every out-degree is either 4 or 1.

Abstract: Tutte in 1966 conjectured that every 4-edge connected 5-regular graph has an edge orientation in which every out-degree is either 4 or 1. We show that the assertion of the conjecture holds asymptotically almost surely for random 5-regular graphs. Hence, the conjecture holds for almost all 4-edge connected 5-regular graphs. (Joint work with Nick Wormald.)