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Yi Zhao* (yzhao6@gsu.edu). *Rademacher–Turán type problems.*

Given a graph G , the *triangle-degree* of a vertex is the number of triangles containing the vertex. The classical *Rademacher–Turán* problem concerns the average triangle-degree in a graph with given order and size. What can we say about the maximum triangle-degree $\Delta_{K_3}(G)$ and the minimum triangle-degree $\delta_{K_3}(G)$? In this talk we give two constructions that have larger values of Δ_{K_3} than the extremal construction for the Rademacher–Turán problem and conjecture that one of them is best possible. We also study the problem of minimizing the number of edges in an n -vertex graph G with $\delta_{K_3}(G) \geq \binom{k}{2}$. This may be viewed as the minimum degree version of the Kruskal–Katona theorem and we solve it for $k + 1 \geq n/2$. Joint work with Falgas-Ravry, Füredi, and Markström. (Received September 05, 2019)