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Brad Rodgers* (rbrad@umich.edu), 530 Church St., Ann Arbor, MI 48109. *Sums of arithmetic functions over short intervals.*

The distribution of sums over short intervals of certain arithmetic functions, such as $\Lambda(n)$ and $d_k(n)$, is closely connected to random matrix phenomena in number theory. In this talk we will attempt to explain this connection along with some surprising behavior exhibited by these sums. We discuss both conjectures over the integers and rigorous work in a function field setting that has sometimes motivated new conjectures. We will also discuss a decomposition of arithmetic functions that makes some arithmetic sense of the behavior these sums exhibit. A part of this talk is joint work with Jon Keating, Edva Roditty-Gershon, and Zeev Rudnick. (Received September 12, 2016)