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Scaling theory of human dynamics and network science CHAOMING SONG, DASHUN WANG, ALBERT-LASZLO BARABASI, Center for Complex Network Research, Northeastern University — The increasing availability of large-scale real data has fueled simultaneous advances in network theory, aiming to characterize the scaling of complex networks, and human dynamics, capturing the temporal characteristics of human activity patterns. Yet, these two areas remain disjoint, with their separate scaling laws and modeling framework. Here we show that the exponents characterizing the degree and link weight distribution of the underlying social network can be expressed in terms of the dynamical exponents characterizing human activity patterns, establishing the first formal link between the two areas.

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