INVITATION TO PAIR CORRELATION PROBLEMS

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Abstract: This talk is intended as a gentle introduction to problems concerning the pair correlation (and other local statistics) of real sequences, mostly in the unit interval. The topics will include: historical origins of the problem, connection with equidistribution and with theoretical physics, pseudo-randomness, recent progress in the area, and some of the mathematical methods which are used on the subject. At the end of the talk there will be many open problems, which can serve as a starting point for those interested in working on the subject.