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Daniel L Goroff* (goroff@sloan.org). *Big Data Projects: Lessons Learned and To Be Learned*. Preliminary report.

Drawing on experience supporting the Sloan Digital Sky Survey, the Census of Marine Life, Wikipedia, the Barcode of Life, Legal Entity Identifiers, and similar large scale data projects, the Alfred P. Sloan Foundation has developed some unusual perspectives on the implications of "big data," both for what we teach and how we teach. Successful empirical research requires early attention to hypothesis formulation, experimental design, data infrastructure, metadata standards, privacy and proprietary restrictions, as well as many other challenges that mathematicians can help address. (Received September 25, 2012)