

1135-68-1860 **Cynthia Dwork*** (dwork@seas.harvard.edu), Department of Computer Science, Harvard University, 33 Oxford Street, Cambridge, MA 02138. *Privacy in the Land of Plenty*.

Privacy-preserving data analysis has a large literature spanning several academic disciplines over more than half a century. Many early attempts have proved problematic in vivo or in vitro. "Differential privacy," a notion tailored to situations in which data are plentiful, has provided a theoretically sound and powerful framework, given rise to an explosion of research, and has begun to see deployment on a global scale. We will review the definition of differential privacy, illustrate with some examples, and describe surprising applications to statistical validity under adaptive analysis and fairness in machine learning algorithms, settings in which privacy is not itself a concern. (Received September 25, 2017)