Cynthia Dwork, Gordon McKay Professor of Computer Science at the John A. Paulson School of Engineering and Applied Sciences at Harvard, Radcliffe Alumnae Professor at the Radcliffe Institute for Advanced Study, Affiliated Faculty at the Harvard Law School and the Harvard Department of Statistics, and Distinguished Scientist at Microsoft, is renowned for placing privacy-preserving data analysis on a mathematically rigorous foundation. A cornerstone of this work is Differential Privacy, a strong privacy guarantee permitting sophisticated data analysis. Differential Privacy is widely in use in industry, including in every Apple device, and will be the basis of the Disclosure Avoidance System for the 2020 Decennial Census.

Dwork's earliest work established the pillars on which every fault-tolerant system has been built for decades. Her innovations modernized cryptography to the ungoverned interactions of the internet and the era of quantum computing, formed the basis of crypto-currencies, and gave the first general approach to ensuring statistical validity in exploratory data analysis. In 2012 she launched the theoretical investigation of algorithmic fairness.

Dwork is a member of the National Academy of Sciences, the National Academy of Engineering, and the American Philosophical Society, and a Fellow of the American Academy of Arts and Sciences. Her recent rewards include the 2017 Gödel Prize, the 2020 IEEE Hamming Medal, and the 2020 ACM-IEEE Knuth Prize.