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1976	University of Chicago, B.A., with honors, Major: Chemistry
1980	University of Chicago, Ph.D. in Biochemistry
1981	University of Chicago, M.D., with honors
1982–1985	Resident in Pediatrics, Children's Memorial Hospital; Chicago, Illinois
1985–1988	Postdoctoral fellow, Department of Microbiology and Immunology, University of California
1988–1994	Assistant Professor, Departments of Pediatrics and Biochemistry, Stanford University School of Medicine
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Observing the living genome

Following the static descriptions of genomes provided by physical mapping and sequencing, dynamic pictures of the living genome are now beginning to emerge. Diverse features of the living genome are accessible to observation using DNA microarrays. Much of the information encoded in the genome is devoted not to specifying the structure of proteins and RNA encoded by structural genes, but rather to controlling precisely when, where and in what amount genes are expressed. Indeed, the variation in each gene's expression is not only much richer than the allelic variation in its sequence, but also much more accessible to comprehensive examination on a genomic scale. The richness of the information represented in the variation in each gene's expression provides the basis for richly detailed and informative genomic maps, of a new kind. The geography represented in these maps reveals functional relationships among genes, reflecting the deep logical connection between the function of each gene and its program of expression. The maps also reveal connections between characteristic genome-wide patterns of expression and the identity, location, environment, physiological milieu, history and health of cells and tissues, reflecting the transduction of these diverse inputs by the regulatory networks that govern the expression program of the genome. In addition to variation in abundance of each gene's transcripts, variation in their translation rates and their subcellular localization can be observed on a genomic scale. And many other characteristics of the living genome are now accessible to observation, including its replication, recombination, and the distribution of proteins across chromosomes. Integrating these diverse new molecular pictures of genomes and organisms, and understanding the biology they reveal, is an ongoing challenge.