



Leroy Hood

Science Talent Search Finalist 1956
Albert Lasker Medical Research Award 1987
Kyoto Prize in Advanced Technology 2002
Lemelson-MIT Prize 2003

His DNA Sequencer made possible the Human Genome Project, which transformed the landscapes of biology and medicine, but Lee Hood's first mapping experiences were not with DNA but with the mountainous landscapes of Montana and Wyoming. As a high school student in eastern Montana, Hood joined his grandfather's summer geology camps for professors and students from such universities as Colombia, Harvard, Princeton and Rutgers. He was a field assistant for several geological mapping projects, which led to his entry in the 1956 Science Talent Search – a geological mapping of oil producing anticline in northern Wyoming.

He describes the Science Talent search as “a seminal event in my life. It gave me a view of science that convinced me that I was on the right path...The excitement of science really came through.”

Growing up near the mountain ranges of Montana, Hood developed a life-long love of the outdoors, and living in a town where life revolved around high school sports, he developed his athleticism as well. In addition to academics, music and debate, he was starting quarterback for the high school football team. He describes his love of the outdoors and sports as “marvelous counterpoints to the intellectual intensity of science.”

He attended the California Institute of Technology (Caltech) at the urging of the teacher who first ignited his passion for biology, then went on to medical school at Johns Hopkins to learn more about human biology. Unlike most of his classmates, Hood did not want to pursue the practice of clinical medicine. Instead, he returned to Caltech for his doctorate and discovered the emerging field of molecular immunology where he moved quickly to leading-edge theories and debates. In 1970, he joined the Caltech faculty and stayed until 1992. During Hood's tenure, his lab developed revolutionary DNA and protein sequencers and synthesizers, and he became a key advocate of the Humane Genome Project.

According to Hood, an early outcome of the Human Genome Project was to drive the automation of large-scale DNA sequencing which required a blend of biology, chemistry, engineering and computer science. Though the term “biotechnology” was first coined in the early 1900s, the notion of integrating biology and technology in a cross-disciplinary fashion was not widely embraced by traditional biologists. This resistance ultimately led Hood to leave Caltech for the University of Washington, where he founded the first ever cross-disciplinary Department of Molecular Biotechnology.

In 2000, Hood co-founded the Institute for Systems Biology to pioneer systems approaches to biology and medicine. As his research and teaching continue, Hood has also focused on driving systemic reform in K-12 science education through an innovative partnership with the Seattle Public School District. “Its most important objective is to produce citizens who are thoughtful, informed, and capable of inquiry-based thinking.”