

Biography of K. Eric Drexler



Eric Drexler is an author, theoretical researcher, and policy advocate focused on emerging technologies and their consequences for the future. Noting that technological advances have caused some of the deepest transformations in human history, he studies emerging technologies with the power to cause future global transformations. Rather than concentrating solely on the immediate laboratory aspects of emerging technologies, where many scientists work in an array of narrow fields, Eric Drexler has chosen to focus on longer-term developments and their potential economic and social consequences, a broad area often neglected or overshadowed in the study of technological change. An advocate of long-term perspectives in policymaking, Eric writes and lectures widely on the implications of emerging technologies for our future. He is Founder, Chairman Emeritus, and Chairman of the Board of Advisors of Foresight Institute, a non-profit educational organization that works to help society prepare for emerging technological revolutions.

In 1981, exploring a vision articulated by Richard Feynman, Drexler described the physical principles of molecular manufacturing systems (using nanomachines to make products with atomic precision) in a paper published in the Proceedings of the National Academy of Sciences. He has since published three books on the topic, including *Engines of Creation*, where he outlined the prospects for advanced molecular manufacturing technology—its capabilities, their medical, environmental, and economic implications, dangers and security risks, and potential policy responses. *Engines* introduced the term "nanotechnology" to describe the Feynman vision and the technologies it will enable.

He also authored *Nanosystems*, an advanced technical text on molecular manufacturing which details the design of nanomechanical components, devices, and systems. *Nanosystems* draws from chemistry, physics, computation, and systems engineering to describe the fundamentals of molecular manufacturing and how to achieve it. His publications in the area of molecular manufacturing are cited as foundational in protein engineering, nanomachinery, and mechanosynthesis. In addition to his work on molecular manufacturing, Dr. Drexler has published widely on the topics of space resources, solar sails, and the use of computer media to improve

the evolution of knowledge. He holds three patents for space systems and co-authored a series of articles on market-based open systems in *The Ecology of Computation*.

Eric Drexler was born in Alameda, CA in 1955. He obtained an SB and SM from the Massachusetts Institute of Technology, and was awarded a PhD from MIT in Molecular Nanotechnology (the first degree of its kind), supervised by Marvin Minsky. His book *Nanosystems* was awarded the AAP 1992 Most Outstanding Computer Science Book. He resides in Los Altos, CA.

Eric Drexler is a researcher, author, and policy advocate focused on emerging technologies and their consequences for the future. He pioneered the study of nanotechnology, introducing the term in 1986 to describe Richard Feynman's vision of nanomachines building products with atomic precision. He has authored three books on this topic, and is founder and Chairman of Foresight Institute, a non-profit educational organization that aims to help society prepare for emerging technological revolutions.