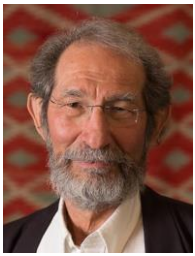
## GEOFFREY WEST

**Distinguished Professor and former President of the Santa Fe Institute**



Geoffrey West is Distinguished Professor and former President of the Santa Fe Institute, Associate Fellow of Oxford University's Martin School, and Visiting Professor at NTU, Singapore. His BA is from Cambridge University and PhD from Stanford where he was later on the faculty.

West's primary interests are in fundamental questions ranging from elementary particles and their cosmological implications to universal scaling laws in biology and developing a science of cities, companies and global sustainability. His research includes metabolism, growth, aging & death, sleep, cancer, ecosystems, cities and companies and rates of growth, innovation and the pace of life. He has been featured in many publications including *The New York Times, The Economist, Financial Times, Wired, Scientific American, Nova, National Geographic* and the *BBC*. He has served on the Council of the World Economic Forum. His work was selected as a breakthrough idea of 2007 by *Harvard Business Review* and in 2006 he was named to *Time's* list of "100 Most Influential People in the World".

### The silent threat of exponential growth and collapse

The entire physical universe and the very fabric of space-time are expanding at an exponential rate, as is the entire fabric of our socio-economic universe. These are silent transformations on the grand scale. It is in the nature of an exponential that we are barely aware of such change or what it might portend until it is too late. The rapid growth of population, financial markets, urbanization, energy consumption, pollution and the pace of life are among the many indicators of open-ended socio-economic expansion. This is in marked contrast to the biological world where exponential growth is bounded. So, why do we stop growing, live of order 100 years and sleep 8 hours a day whereas cities keep growing and the pace of social life continues to accelerate? A unified, quantitative framework for addressing such questions will be presented, inspired by a network-based theory for understanding the universal scaling and diverse properties of organisms, ecosystems and social organizations ranging from cells to cities. While Life is remarkably adaptable and robust, innovation and wealth creation that fuel the exponential growth of social systems, potentially sow the seeds for their inevitable collapse, if left unchecked.