The purpose of this talk is to describe to our bright young students the role of information and its processing apparatus in various physical and biological systems such as in second law of thermodynamics, universe, photosynthesis and black-holes. I begin with a discussion on the relation between logical information (Shannon) and physical information (Boltzmann) and argue that information can be lost, but it cannot be destroyed. Taking advantage of general relativity, special relativity and quantum mechanics I’ll discuss that the universe can be realized as a computational machine with $10^{120}$ operations on $10^{90}$ bits over its 10 billion years of existence. I’ll also describe a fascinating process namely quantum walk, as oppose to random walk, in quantum biological systems, such as photosynthesis, and describe the fundamental algorithm based on quantum walk that miraculously speeds up the exciton energy transfer, created by absorbing a photon, to reaction-center. I will close my discussion on a philosophical note that the creation of “information” may indeed have superseded the creation of physical, chemical and biological processes and systems.