Paul J. Werbos is a Fellow of the IEEE and one of the first recipients of the IEEE Neural Network Pioneer Award, in recognition of the original development of backpropagation and of adaptive dynamic programming in the 1960's and 1970s. These are the foundations which made deep learning possible, including reinforcement learning systems more powerful than those used in Alpha-Go. INNS granted him its highest award, the Hebb award, recognizing his work showing how these mathematical tools can explain key aspects of learning in biological brains. He received Ph.D. from Harvard University (1974), Masters' from the London School of Economics (1968) and Harvard (1969). In high school, he took undergraduate and graduate courses in mathematics from the University of Pennsylvania and Princeton, and obtained FCC First Class Commercial Radiotelephone license. He has also published on issues of consciousness, the foundations of physics, and human potential. He serves on the Planning Committee of the Millennium Project, the Scientific Advisory Committee of the Lifeboat Foundation and the Chile Solar Energy Research Consortium. He has been active in IEEE-USA; for example, for IEEE-USA he gave a major talk in Rayburn to over 200 Congressional staffers, which helped prepare the State of the Union message which led to the Energy Information and Security Act of 2007. In 2009, he served as a Brookings Fellow in the office of Senator Specter, responsible for climate, energy and space policy.