

Professor Hava Siegelmann of the University of Massachusetts at Amherst, is director of the BINDS laboratory, where she focuses on modeling dynamic brain processes and applying them to Artificial Intelligence. Currently she is on an assignment at DARPA, developing programs to advance the fields of NNs and AI. Siegelmann is the founder of a subfield of computer science, SuperTuring Computation, exploring the viable form of computation other than Turing computation, with recurrent neural networks as its fundamental machine model. Super-Turing theory introduced not only a major variation in computational method, but also a new way to interpret cognitive processes. Siegelmann's modeling of geometric neural clusters resulted in the highly utile and widely used Support Vector Clustering algorithm specializing in the analysis of high-dimensional, big, complex data. A unifying theme underlying her research is the study of time-dependent dynamical and complex systems. Siegelmann is a 2015 NSF's BRAIN initiative recipient, and was named the INNS' 2016th Hebb award recipient.