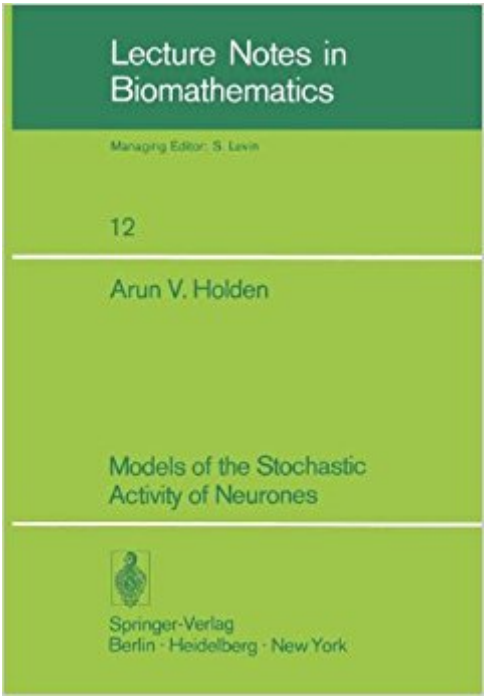
Models Of The Stochastic Activity Of Neurones (Lecture Notes In Biomathematics)



Synopsis

These notes have grown from a series of seminars given at Leeds between 1972 and 1975. They represent an attempt to gather together the different kinds of model which have been proposed to account for the stochastic activity of neurones, and to provide an introduction to this area of mathematical biology. A striking feature of the electrical activity of the nervous system is that it appears stochastic: this is apparent at all levels of recording, ranging from intracellular recordings to the electroencephalogram. The chapters start with fluctuations in membrane potential, proceed through single unit and synaptic activity and end with the behaviour of large aggregates of neurones: L have chgaen this seque~~e\/~~';uggest that the interesting behaviourr~f :the nervous system - its individuality, variability and dynamic forms - may in part result from the stochastic behaviour of its components. I would like to thank Dr. Julio Rubio for reading and commenting on the drafts, Mrs. Doris Beighton for producing the final typescript and Mr. Peter Hargreaves for preparing the figures.

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