

University of St Andrews
Department of Mathematical and Computational Sciences

Annual Open Lecture Course
1991
Sponsored by STC Technology Limited

Neural Networks

Thursday 18th and Friday 19th April 1991

Professor Geoffrey Hinton
University of Toronto

Dr David Willshaw
University of Edinburgh

All lectures will be held in Lecture Theatre B in the Department of Computational Science/Physics Building, University of St Andrews.

These courses are run by the Department of Computational Science and sponsored by STC Technology Ltd. The fee for the course to academic visitors to the University will be £10. This covers the cost of any duplicated material that will be handed out and also morning and afternoon tea or coffee and biscuits. The fee to industrial visitors is £50 except employees of STC Technology Ltd. The lectures are informal but since we are expecting a large number of visitors this year and are limited to a total audience of 180, we would ask you to inform us of your intention to attend together with your fee in advance.

No special arrangements are being made for accommodation or meals but a list of hotels and bed and breakfast accommodation can be obtained from the Secretary, Department of Computational Science, North Haugh, St Andrews, Fife KY16 9SS (Tel. 0334 76161 ext 8262). A map of St Andrews will also be sent on request.

Timetable

April 18th	9.00- 9.50	Introduction: Why we are interested in Neural Nets plus simple computational considerations G.Hinton and D.Willshaw
	9.50-10.40	Perceptron theory D.Wilshaw
	10.40-11.00	<i>Coffee</i>
	11.00-11.50	Basic Backpropagation with some simple examples G.Hinton
	11.50 -12.40	Associative nets (including Hopfield nets) D.Wilshaw
	14.00-15.00	The theoretical basis of backpropagation and a more complex example G.Hinton
	15.00- 15.30	Tea
	15.30- 16.30	Biological and computational extensions of associative nets D.Willshaw
April 19th	9.00- 9.50	Mean Field Nets G.Hinton
	9.50 - 10.40	Neurobiology and Computation: Tea-trade model, Kohonen net, Elastic net D.Willshaw
	10.40- 11.00	<i>Coffee</i>
	11.00 - 11.50	Adaptive elastic nets for character recognition. Communities of competing expert networks G.Hinton
	11.50 - 12.40	Development of neuromuscular connections D.Willshaw
	14.00 - 15.00	Discovering the causes of the sensory input G.Hinton
	15.00- 15.30	<i>Tea</i>
	15.30 - 16.30	Summary and the Future G.Hinton and D.Willshaw