Color Plate 3

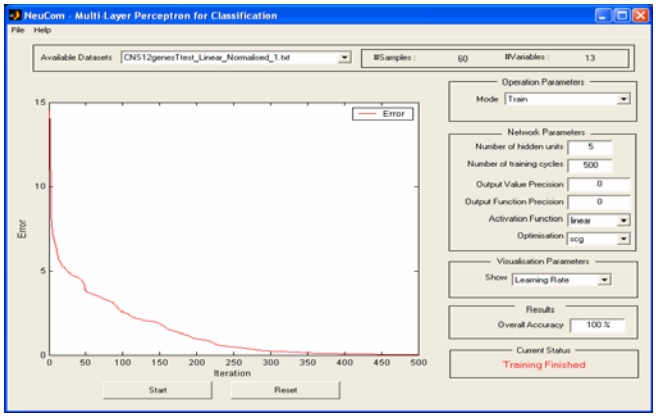

Fig. 4.8. MLP that has 12 inputs (12 gene expression variables from Fig. 4.6), 1 output (the class of survivals *vs* not responding to treatment) and 5 hidden nodes is trained on all 60 samples of the gene expression data from the CNS cancer case study data. The error decreases with the number of iterations applied (altogether 500). (The experiments are performed in a software environment NeuCom (www.theneucom.com)

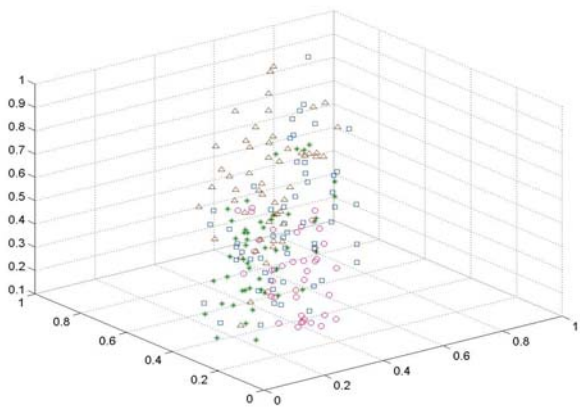

Fig. 5.8. The rule nodes of an evolved ECOS model from data of a person **A** using 37 EEG channels as input variables, plotted in a 3D PCA space. The circles represent rule nodes allocated for class 1 (auditory stimulus), asterisks – class 2 (visual stimulus), squares – class 3 (AV- auditory and visual stimulus combined) and triangles – class 4 (no stimulus). It can be seen that rule nodes allocated to one stimulus are close in the space, which means that their input vectors are similar