Project Title	Wearable sensors for detection of ALS
Supervisor	Prof Martyn Boutelle Prof Emmanuel Drakakis
Theme	Biomedical Sensing Diagnostics and Imaging Clinical Neuroscience Image Acquisition and Signal Processing Medical Devices
Project Type	Lab based
Project Description	"This project follows on from an EPSRC funded project to detect the progression of ALS (motor neurone disease) in patients. It is a Collaboration between the Boutelle group, the Drakakis Group and Prof Chris Shaw (Maurice Wahl Clinical Research Centre, King's College Hospital). ALS is a devastating disease that is characterised by rapid deterioration in motor function leading typically to death within a few years of diagnosis. Development of therapies is hampered by the lack of a reliable method of determining the progression of the disease. Typically, clinical function assessments are used, but the scale is too corse and too subjective to allow evaluation of drug therapies that might for example slow the rate of disease progression. We have been following a different approach, where we use multiple skin contact to record EMG's from pairs of major muscle groups in the arms or legs of a patient. We are looking for complex fasciculation that seem to be characteristic of ALS. We have moved to the stage of evaluating instrumentation that can be used by patients at home. The project is to help set-up this new system and to further develop pattern recognition algorithms to group ALS fasciculation potentials to allow processing of large volumes of data. It will be supported by James Bashford (KCH) as well as the MGB and Drakakis groups."