

## Case Study

*Loughborough University installs HORIBA's latest Medical analyser to assist with research at their National Centre for Sports and Exercise Medicine*

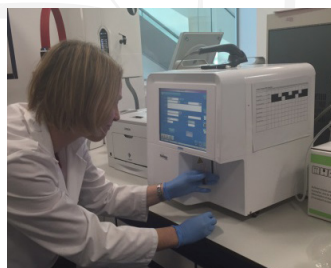


HORIBA UK Ltd. have recently installed their first Yumizen H500 at the National Centre for Sports and Exercise Medicine, East Midlands, (NCSEM-EM) based at Loughborough University.

The Yumizen H500 is a small, compact analyser that provides a full blood count plus 5-population WBC differential from very small sample volumes and using only three reagents.

The NCSEM-EM is one of three hubs together with London and Sheffield and is an Olympic legacy project aiming to translate high quality research in sport, exercise and physical activity into health outcomes that will improve the health and wellbeing of the nation. The work of the centre focuses on 4 main areas:

- Exercise as an intervention in the prevention and management of chronic disease
- Musculoskeletal trauma and exercise rehabilitation
- Exercise medicine for physical and mental health and wellbeing
- Nutrition: from healthy living to athletic performance



'The instrument is fast, neat and small and has a good linearity range on the WBC.'

It also helps to ensure the quality and yield of cell cultures'

**Dr Lettie Bishop**  
Reader in Exercise  
Immunology,

Loughborough  
University

The Yumizen H500 was purchased by Dr Lettie Bishop, Reader in Exercise Immunology, to assist in her research into the immunological and inflammatory response to exercise. Studies range from measuring response in elite athletes, rehabilitation in patients with reduced mobility, chronic illness to the health of the general public and as such spans a wide range of academic and healthcare interests.

Many studies of the department involve cellular responses such as relative and absolute numbers of white blood cells and having accurate parameters produced by the Yumizen H500 underpins the more in-depth studies such as flow cytometry. Dr Bishop commented that while immunophenotyping provides relative numbers of different specific cell types, the ability to use the cell counts from the Yumizen H500 allows the calculation of absolute numbers which gives the data more relevance.

'It also helps to ensure the quality and yield of cell cultures' says Dr Bishop. 'The instrument is fast, neat and small and has a good linearity range on the WBC'

The instrument is currently being used for 4 different projects with another study for an MSc project starting soon. Studies include the immune response to heat exposure on upper body exercise and the response to exercise in renal transplant patients.

Research projects are progressing well with several other plans in the pipeline so the first Yumizen H500 will be able to contribute to the work of the NCSEM for years to come.