Statement of Purpose to the third European Computational Motor Control Summer School (ECMCSS).

Dear Sir or Madam,

I am currently researching for my PhD in the School of Engineering at The University of Birmingham. My research addresses the question of variability in human movement (collected through a network of inertial measurement units). While this work relates to the field of Activity Recognition, I am finding that conventional signal processing techniques tend to either ignore or process out 'variability'. This means that it is possible to recognise types of movement but more difficult to distinguish between examples of these types. In particular, I have been looking at ways of distinguishing between expert and novice dancers. Through our centre of Intelligent Robotics Lab I received the email about your summer school. I was very excited when reading about this summer school, since I was looking for a workshop that would enhance my knowledge and skills in the area of locomotor science. My original academic background is in Mechatronics. The ECMCSS brings together my interest in computer science, movement science and motor control. It seems to be the perfect school to broaden my horizon and learn fundamentals in the areas that are very important for my scientific aims.

I therefore believe that by attending the ECMCSS I can develop and elaborate on my research skills in the following areas:

- Knowledge: For my Ph.D. research, I am interested in automatic identification of movement variability. The tutorials at the ECMCSS will therefore be helpful to gain a deeper understanding of motor control concepts which are the foundation of my research.
- Networking: Being part of the ECMSS would be a great opportunity for me to meet Ph.D. researches and professionals who have similar research interests. This might result in future collaborations, as I enjoy working with a variety of people. I also thought that the recreational activities sound like great fun and a nice way to talk to colleagues informally.
- Coding: Although I do have experience with R, C++, and GNU-Octave (https://github.com/mxochicale/repositories), I think that is very important to use a common language framework such as MATLAB. The ECMCSS is therefore a good opportunity to expand my MATLAB skills in the specific application of human motor control.

Additionally, receiving tutorials from researchers who are involved in cutting edge research in the field of human motor control will be an exceptional opportunity for me to get inspiration for my own scientific endeavours.

Yours faithfully,
Miguel Xochicale