

**Jordan Miles**

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**Letter of motivation for Jordan Miles to carry out a Short Term Scientific Mission at Uppsala University within the COST action CM 1405.**

To whom it may concern,

Recently, my PhD research has taken an exciting new direction and this STSM will give me a vital opportunity to pursue it. A simple but novel instrument which I have developed at Queen's University Belfast could open the door to many applications in chiral analysis, such as: measurement of enantiomer excess in amino acids found in meteors, polarimetry measurements of VUV light from synchrotrons and free electron lasers, detection of chiral drugs present in human blood/breath/tissue samples, as well as chiral catalysis experiments. In order to test and develop this new analytical tool, and at the same time partake in cross-disciplinary research in catalytic chemistry, I propose to travel to Uppsala University in Sweden with the group of Jacinto Sa.

Uppsala University is a well-respected institution with excellent facilities that produce world class research. Jacinto Sa's group are interested in measuring enantio-selective catalysis which may have been the cause of enantiomer excess in organic molecules in the early solar system. To provide insight into this theory, a highly sensitive instrument that is capable of measuring enantiomer excesses in very small quantities of amino acids must be established. The device which I have developed fits these requirements exactly. Given that the group in Uppsala have a femtosecond laser which has ideal specifications for testing my new instrument, their facility is perfect for this STSM.

Not only will this project will allow me to experience work in another research lab outside my home institution, it will help grow and strengthen the collaboration between our groups, and increase knowledge relevant to the WG2 MOLIM community.

Yours Faithfully,

