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## Supervisor statement on Alexander Christoph Haindrich

Alexander came to the Lukes lab at the start of his undergraduate period and worked under the supervision of Somsuvro Basu, a former PhD student of the lab, now postdoc in Germany. Although I did not follow his performance at that stage I am aware of his potential and achievements during this period. At that stage his task was, amongst others, the development of RNAi cell lines and for the CIA pathway in trypanosomes.

At the beginning of his masters' project, Alex was more or less working on his own. In the lab, we had decided to use in situ tagging with GFP through long PCR, a technique that aims to establish a sort of "high-throughput" tagging; all of this with the idea of establishing it as a routine technique. However, we encountered several obstacles in this path. The most prominent of these was that the in situ tagged protein became unstable and was lost after a few generations, making the cell lines unreliable. Alex was part of the general troubleshooting team for the development of this technique. After several attempts of obtaining clonal cell lines and testing them, Alex realised that GFP may not had been the best suitable candidate for his proteins and decided to exchange the tag for a smaller one, by modifying the constructs himself, and later on, managed to create stable cell lines, after months of frustrating troubleshooting and negative results.

My task as Alex' supervisor began at this troubleshooting stage. His project took shape and, with only a few months left to achieve completion, he took charge of the experiments that were to come. He began protein purification techniques he had never used before and standardized them for each of the 5 proteins he was decided to work on. Furthermore, he ventured into microscopy techniques, including confocal microscopy, and with very little time left, not only did he manage the technical details, but found novel localisation results for one of the proteins in his project. He successfully combined these with other biochemical localisation techniques that many much more advanced students find inextricable. On the other hand, he tested and standardized better conditions for the measurements of enzyme activities, all of this by looking in the literature and comparing them with the old conditions used before. His stubbornness to obtain results led to the mass spec analysis of the purification data to build a theoretical model based not only on his results, but also on the data available on the literature.

One of the proteins he was curious about was not recommended by Lukes, as it did not seem to belong to the CIA pathway. In his curiosity, Alex suggested he could take an undergraduate student for this task and his wish was granted. So, on top of his duties, he also performed as a supervisor of Michala Boudova, and has guided her until date.

Alexander displays capabilities seldom seen in a student of his level, and I consider myself lucky and honoured to have functioned as his supervisor at this stage of his project. Therefore, I recommend his work to be accepted as part of his requirements for his Master degree.

Priscila Pena-Diaz, PhD