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Supervisor statement – Marco Badici

Marco started working on his project relatively late, in November 2020, as he had to change the topic because his previous project with another supervisor was not considered sufficiently bioinformatic. He therefore had only 5 months to understand the topic of his thesis, generate results and write the thesis. He studied transposable elements from two perspectives – in bigger part of his thesis, he analysed very large RNA-seq and bisulphite-seq datasets of single oocytes from young and aged mouse females, with the goal to uncover whether increased maternal age leads to re-activation of specific transposable elements. In the second part, he aimed to verify previously published low transposable element content in naked mole rat, which might have been just a consequence of suboptimal genome assembly, and compare it to the content in other mammalian species. To test this, Marco employed a genome-independent method of transposable element content quantification that uses original DNA-seq reads, thus eliminating the need for good quality genome assembly.

In addition to using existing tools, Marco showed to be fully competent to write and troubleshoot his own Python and R scripts without any assistance from me. He managed to generate large amount of very useful data in short amount of time and under difficult conditions with limited input from me. Because of my maternity leave for the whole duration of his project and pandemics, our meetings had to be mostly online and less frequently than would be under normal circumstances. He had to grasp biological background of the project regarding transposable elements and their epigenetic regulation, through his independent work with scientific literature, to be able to understand the meaning of the analysis he was doing, and to interpret the data. Marco was very motivated to successfully complete the project and put a lot of effort into it. He proved he could work independently, but also was not afraid to ask when anything was not clear, to be sure he understands what he was doing. Despite the demanding schedule of his studies and exams, he found enough time for his project.

Marco wrote a good quality thesis including all corrections according to my comments in less than a month. I was overall very happy with his work, and his results will contribute to the manuscript in preparation and serve as a basis for future studies. If Marco decides to stay at our university for his Master degree, I will be very happy for him to continue working with me.

In České Budějovice on 21/05/2021

Mgr. Lenka Gahurová, Ph.D.