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Supervisor' review of dissertation thesis by Hassan Hashimi

It all started when Hassan invited me to a pub and expressed his interest to do PhD in our laboratory. At that time he was missing science after his bachelor's at the University of Massachusetts and after an apparently enjoyable stay in Ivo Šauman's laboratory. Ivo told me that Hassan is a good man with deep interest in science, capable of drinking more Fernet's than a regular American (sometimes even a regular Czech), all of which qualified him well for our lab and I was quite thrilled about him joining us. There was the usual requirement to get the Master degree first, which Hassan did pretty fast and everything looked very promising from the start.

Hassan became interested in RNA editing and we picked two proteins – TbRGG1 and REAP-1 to start with. Doing that, we were bound to run into troubles but we of course had no idea. Soon, Zdeňka Čičová joint Hassan in the quest to unravel editing and they remain a great team ever since. However, after at least half-year's worth of experimentations they both have realized that whatever was published in prestigious journals about REAP-1 is downright wrong, and when we wanted to correct it, we learned that the lab who caused the mess just has a paper in press where they are fixing it themselves (in a very good journal again).

Soon thereafter, at a meeting in Massachusetts close to his home town, Hassan has learned another bad news - a group also working on TbRGG1 reached results different from his. At that time, I am pretty sure, Hassan was frequently questioning his decision to do PhD with me. Nothing was going as planned, we seemed to be losing even when studying a fu..... protein that, as Hassan pointed out, seemed at that time to interest a maximum of 3-4 people on the planet. But fortunately for him, as well as for us, he did not give up. So we at least decided to write together with Alena Zikova a review on RNA editing, which Hassan decided not to include in his thesis, but which was a useful paper for all of us and also did not go overlooked by the community.

After Hassan obtained some promising results by general characterization of the TbRGG1 knock-downs, in frame of our joint FIRCA grant, he went for several months to the excellent lab of Ken Stuart in Seattle, for what turned out

to be a refreshing and productive stay. Indeed, the story that eventually came out of that work in the journal RNA is a nice one. It showed that TbRGG1 might actually be a very interesting protein, especially thanks to its interacting proteins.

After his return from Seattle, Hassan realized that virtually nothing was going on in our lab concerning editing. Yet within a short period of time, with his enthusiasm he has build a group within our lab by convincing Lucka Novotná that editing was cool. Last year Yan-Ze joint them too, so along with our youngest Lucka, Hassan pulled with him four ladies into the editing battlefield. They had their small lab meetings several times a week, and Hassan was always available to discuss experiments, go thru details and spent with his charming entourage as much time as needed. Together, they were able to characterize components of the MRB1 complex, first identified thanks to TbRGG1, which have novel roles in guide RNA processing. These results were truly exciting and we have enjoyed numerous discussions about them. Unfortunately, another group published overlapping data in the end of 2008, forcing us to forget about Molecular Cell and publishing in RNA.

Hassan got also involved in the characterization of *Trypanosoma evansi* and *T. equiperdum* strains, deficient to varying extent for kinetoplast DNA, performed in our lab by DHL. His smart experiments on the extent of editing were critical for the story.

With his typical restlessness, Hassan kept thinking about unorthodox ways how to track down the elusive proteins made out of edited mRNAs. In a pleasant collaboration with Anton Horváth and his PhD students Vladimíra Benkovičová and Petra Čermáková from Bratislava, he was able to design and perform experiments that were not yet published but I am sure soon will be and have a potential to bring fresh air into the field, which got tired by the lack of progress in that direction. A lesson, however, we got is that this was for a good while our last line of research that depended almost solely on indirect evidence. Too much of work and too much of nagging by the reviewers...

As the senior PhD student in our lab, Hassan has been invaluable in helping other students in planning and execution of their experiments, data presentations etc. He was always willing to share his expertise and was an enthusiastic contributor to our lab meetings, teaching the students that asking questions and indulging into debates is an essential part of good science.

Last but not least, I would like to mention another unique aspect associated with Hassan. He entered the lab already as my good friend and at an age when one is not always eager to listen to the wise advice from the boss. However, Hassan never tried to extract any advantage on the basis of our friendship, and was always willing to work and think hard about what and why

he was doing. In my opinion, Hassan is a gifted scientist, and I hope by arriving to a similar conclusion, he will sort in his mind out where his future lies.

I would like to state that the presented dissertation thesis fulfils according to my opinion all postulations and I recommend it to be accepted as a partial fulfillment of the requirements for the degree of Doctor of Philosophy at the Faculty of Biology of the University of South Bohemia.

Thanks Hassane for your friendship and great work, in this particular order.

February 15, 2009 in České Budějovice



Julius Lukeš