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Supervisor' review of dissertation thesis by Alena Zíková

Alena is the first student who did bachelors, masters and PhD in our lab. Some argue that such inbreeding is not optimal for a scientific career, but I am pretty sure nobody would use this argument in her case.

In fact Alena came to our lab in my absence, being recruited by Milan and Obora. First moment I clearly recall her was when I returned from Prague with electron microscopy pictures of the kDNA of *Dimastigella* but without kDNA pictures of her pet in those days – *Cruzella marina*, and she was so unhappy that I felt really guilty. In any case, she described the elusive *Cruzella* and moved soon on. In frame of her next project, in collaboration with Iveta Kyselova/Slapetova, during her Masters she characterized a subunit of complex IV and published her 2nd paper.

Next stage in her career was a 3-months stay in Rob Benne's lab in Amsterdam, which I guess might have been as important for her attitude towards science as mine almost a decade earlier in the same place. Alena was also helpful with putting together our review on kDNA evolution and co-authored a highly cited paper.

First topic of her PhD was functional analysis of prohibitin, but quite soon Alena thought this was too limited for her and following one discussion in our cafeteria switched to RNA editing. This was no doubt a key decision. Since then she felt free and decided to perform any possible experiment to unravel all the secrets of the MRP complex. After preparing tagged wild type and mutated versions of MRP1 and MRP2, she went to Seattle Biomedical Research Institute to perform mass spec on complexes containing the tagged proteins. Alena commenced her stay during Christmas when everyone was gone and it was difficult to perform any experiments, not mentioning mass spec, but thanks to her perseverance and stubbornness, she had results quite soon and became familiar with all the methods. At the same time, there was quite a bit of a disappointment, as the time-consuming experiments with mutated constructs turned eventually to be fruitless.

After returning home, Alena was an experienced, independent, self-confident and self-reliant young scientist, whom I had little to teach at that point.

With me and Hassan she wrote a nice and quite exhausting review, not included in this defense, and published several papers that are subject of this defense. Moreover, her work represented a significant part of several grant projects funded by GAČR, GAAV and FIRCA-NIH.

Alena's technical competence is complemented by her creative thinking and embracing new ideas. She was undaunted by overcoming difficulties associated with adapting novel techniques in the laboratory, and did not lose drive and optimism even after realizing (of course after several months) that some approaches were not the best ones.

As the senior PhD student in our lab, Alena has been invaluable in helping other students in planning and execution of their experiments, data presentations etc. She was always willing to share her expertise and always 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. At a later stage, her thinking became really fast and she requested the same speed from others. Perhaps some additional effects of the schools of Rob Benne and Ken Stuart? They taught her a lot and I guess by now they both know that they did not waste their time with her.

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. In fact it fulfils the requirements, apart from teaching, for receiving a docent degree. As it was so far a lot of fun and success, I can only hope Alena will eventually return from Seattle and we will again have the pleasure of her company.

October 8, 2006 in České Budějovice



Julius Lukeš