



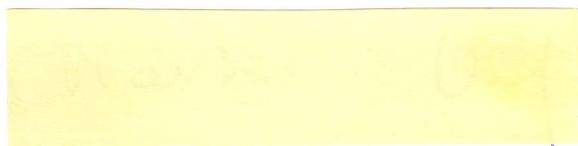
PhD advisor's opinion on the PhD work of Mgr. Aleš Benda

Mgr. Aleš Benda started to work in my laboratory in October 2000 within the framework of his „Magister“ studies in chemistry at the Faculty of Nature Science, Charles University, Prague, Czech Republic. He obtained the „Magister“ degree in September 2002 and entered in the same month the PhD program „Physical Chemistry“ at the Charles University. His first scientific task was to develop an approach for determining diffusion coefficients in lipid monolayers at liquid/liquid interfaces by Fluorescence Correlation Spectroscopy (FCS). During this project Mgr. Benda had to solve several, severe experimental and analytical difficulties, but finally he was able to present the first values for diffusion coefficients in lipid monolayers at liquid/liquid interfaces (Benda et al., Langmuir 2003). Pre-requisites for fulfilling this task were Mgr. Benda's remarkable theoretical understanding of optics and the ability to solve elegantly experimental problems. The next task was to work out a protocol for precise determination of diffusion coefficients in phospholipids bilayers by confocal FCS. Mgr. Benda simply applied the experience and knowledge he acquired from those monolayers, and presented in a short time such an approach, named the “z-scan” (Benda et al., Langmuir 2003). I have to underline that in the meanwhile Mgr. Benda and his colleagues have demonstrated that this “z-scan” is a must when doing FCS not only on supported phospholipids bilayers, but also when working in living cells (Humpolickova et al, Biophysical Journal 2006). After solving these two problems, Mgr. Benda visited within the framework of a Marie Curie fellowship the laboratory of Prof. Wim Hermens in Maastricht. I was not surprised, when learning that he was performing there extremely well and his stay resulted in a further Langmuir publication (Benes et al., Langmuir 2004). Being back in Prague he had the task to further develop single molecule spectroscopy in my laboratory. He established the so-called time-resolved FCS microscopy (Benda, Review of Scientific Instruments 2005) in my laboratory and applied this technique on supported phospholipids bilayers (Benda et al., submitted to Langmuir). Moreover, he contributed in collaboration with the laboratory of Prof. Joerg Enderlein (Juelich) to the development of multi-focus FCS (Dertinger et al., Proceedings of SPIE 2005 and submitted to Langmuir).

It has been a pleasure for me to follow the professional development of Mgr. Benda. Five years ago I was talking to a “Magister” student and now I am discussing scientific problems with a scientist. There is no doubt for me that Mgr. Benda should stay in science and I will do my best to further promote his carrier.

In summary, I strongly recommend to award the scientific work of Mgr. Benda by the PhD title.

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