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POSUDEK ŠKOLITELE / SUPERVISOR'S RECOMMENDATION

Nové Hradky, March 26, 2014

To whom it may concern:

Alexey Bondar has been my Ph.D. student since November 2007, with the topic of his dissertation being Studies of Membrane Protein Structure and Function using Polarization Microscopy. In the earlier stages of his studies, Alexey worked on technical development and testing of the microscopic equipment and software for two-photon polarization microscopy (2PPM). His intelligence, diligence, knowledge and perseverance were instrumental in developing 2PPM into a highly valuable technique, widely applicable to observing function of membrane proteins and making insights into their structure. Alexey's efforts were rewarded by a co-authorship of a large article in a top scientific journal, Nature Methods.

Alexey's later efforts were mostly focused on applying the newly developed 2PPM technique to biological questions, particularly those concerning molecular mechanisms of G-protein signaling. During this period he worked highly independently, identifying suitable experimental strategies, obtaining constructs (either as gifts, or preparing them himself), performing experiments, analyzing and interpreting data, and setting new directions. Through his work, he was able to address the long-standing issue of the molecular identity of the activated state of Gi/o proteins, and a similarly contentious issue of interactions between G proteins and G protein coupled receptors. Apart from these efforts, Alexey also actively participated in other projects (such as development of genetically encoded voltage sensors or development of 2PPM into a structural biology technique) which will yield scientific publications in due time. Alexey's scientific and presentational abilities have gained him numerous fellowships and awards, perhaps the most prestigious being a Keystone Symposia Future of Science Fund Scholarship.

During the course of studies Alexey mastered a wide range of experimental techniques of molecular biology, cell biology, physiology (including single-cell electrophysiology) and molecular computer simulations, and became thoroughly acquainted with sophisticated optical and microscopy equipment. With both a natural authority and gentle demeanor, he has assisted and supervised many other students. Alexey has been an outstanding student and is now a promising young scientist. I highly recommend that he be awarded a Ph.D. degree.

Sincerely,

