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Chair in Computer Aided Drug Design*

פרופ' חיים וולפסון
הקתידרה לפיתוח ממחשב של תרופות
ע"ש ג'ורג' ומריטצה פיונקובסקי

Aug 14, 2019

Organizing Committee
EMBO Practical Course on Integrative Structural Biology

Dear Committee,

I strongly recommend to accept my Ph.D. student Mark Rozanov to your course and allowing him to present a poster on his work. I believe that Mark's thesis research is an ideal fit for your course. Mark's educational background is in Engineering and Statistics/Operation Research and currently he is conducting a Ph.D. thesis in the School of Computer Science under my supervision.

Mark's thesis deals with the development of computational methods for the integrative modeling of large multimolecular structures from various experimental modalities, predominantly, cryo-EM. He is applying the novel machine learning methodology based on, so called, "deep learning". Thus Mark is attempting to combine the cryo-EM resolution revolution with the recent Artificial Intelligence revolution. He has already developed a novel method for the high confidence detection of amino acids in cryo-EM maps of about 3Å, which he presented at the 2018 BIBM conference. Recently he is working on a novel technique to "realistically" simulate novel cryo-EM maps from atomic resolution data. This is crucial for the new massive training algorithms of deep learning. Mark intends to present the latter work at the course.

In the recent couple of years Mark was the teaching assistant of both of the "Computational Structural Biology" course and "Computational Integrative Modeling" workshop, which I teach at the Bioinformatics program of Tel Aviv University. In this capacity he guided students in the application of relevant algorithms as well as the Pymol and Chimera packages.

I believe that Mark will strongly benefit from the interaction with experimentalists and modelers, who will attend the EMBO course.

I sincerely believe that Mark's background and research are ideally suited for participation in your course.

Sincerely,

Haim J. Wolfson
Professor of Computer Science
Incumbent, Pionkowski Chair of
Computer Aided Drug Design