

SAINT-PETERSBURG STATE UNIVERSITY

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Dear Graduate Committee Members!

It's a true pleasure for me to write this letter of recommendation for Anna Shapkina for the Ph.D. Program at Technion.


Anna started the master's program at St Petersburg University in 2019 and attended my courses "Linear models, analysis of variance and regression using R" and "Multivariate data analysis and visualization using R". Under my supervision, Anna conducted her Master's research and defended it with excellent grades. Anna showed herself as a highly motivated and creative student throughout these years.

As the study object for her MS thesis she picked a tricky one, the mesopelagic shrimp *Systellaspis debilis*, dwelling at a depth of more than 200 m. Anna plunged into the impenetrable jungle of the molecular phylogeography of this species, analyzing variations of its morphological characters and revision the validity of dubious species. During her research that Anna conducted on the materials in the Oceanology Institute of the Russian Academy of Science, Anna showed a high level of self-organization, determination and a colossal capacity to manage a lot of tasks in due time.

Anna has proven to have excellent skills in conducting molecular analysis and showed great patience in tackling all the difficulties that could appear along it. She has mastered all the key methods of molecular laboratory and bioinformatic research's theoretical underpinning, Anna processed a large number of literary sources, showing a good critical approach to the already existent materials. For me, a researcher formed in the "pre-molecular-analysis" era, it was always a pleasure to discuss with Anna the degree of her research and the new discoveries made along the way.

At the final stage of the research which was related to the analysis of morphological validity in shrimp, Anna showed her ability to quickly learn new research methods. This stage of the project involved multivariable statistical analysis that was needed to explain the results, and Anna successfully mastered modern calculation methods and their theoretical underpinning.

To conclude, Anna has shown great enthusiasm for proceeding with her path of a marine biology researcher and demonstrated that she has all the capacities to succeed in it.

Sincerely,

Ph.D. Vadim Khaitov
Associated professor,
Dept. of Invertebrate Zoology,
Saint-Petersburg State University