

**Dissertation Review Form**  
**-for members of the Dissertation Commission-**

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The main topic and research area of dissertation by Olesya Kolmakova are related to the new modern approach to identification of planktonic bacteria by molecular methods. It allows you to define the bacteria species and identify the new species in water community that cannot be done by light microscope.

Besides the seasonal dynamics of bacterial response to the addition of various amino acids using experimental mesocosms based on water samples from the Bugach reservoir have been studied. It is important to determine the role bacteria species in the decomposition processes in pelagic community of reservoir.

The basis of dissertation was extensive studies of bacteria communities in the different parts of Yenisey River and subsequent analysis by molecular methods for determination bacteria species. The research approach and used methodology for identification of planktonic bacteria correspond to the given problem. Using the next generation sequencing (NGS) 3022 operational taxonomic units (OTU, genetic "species") of prokaryotes were found in the studied river and 552 of these sequences were not found in available international databases. Its sequences may be a new bacteria genetic "species".

The structure of dissertation is logical and reasoned, and corresponds to receive data. It should be specially noted the extensive literature review on molecular methods for identification bacteria species.

The main contribution of dissertation to the research area is related not only with identification of planktonic bacteria, but finding that different species of planktonic bacteria specialized in the consumption of individual amino acids.

This dissertation also make a significant contribution to evaluation of microbial ecology of great world rivers.

The field data, sample processing and molecular results are received entirely by author.

One shortcoming of the manuscript is the lack explanation of very high values of Shannon index in the bacteria communities which are not typical for algae and others species.

**Name of the PhD Candidate** :Ms OLESYA KOLMAKOVA

**Planned Date of Graduation** : 23 September, year: 2015

**Title of the Dissertation:** MOLECULAR GENETIC IDENTIFICATION OF  
PLANKTONIC BACTERIA IN THE YENISEI RIVER BASIN AND EXPERIMENTAL STUDY OF  
THEIR BIOGEOCHEMICAL FUNCTIONS

Would you please elaborate upon your review with reference to the above mentioned criteria in the box below. Please add extra pages if needed

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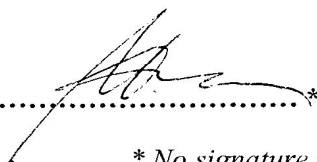
**Name of the Dissertation Commission Member** : .....

**Chair / Function** : .....

**Date** : .....

**Signature**

: .....\*



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**Please send the completed form to the Head of the office of the Doctoral and Post-doctoral, Faculty Performance Evaluation Office Grigorieva O.A. e-mail:grigorieva\_00@mail.ru, tel. +7 (391) 206-22-62, address: 79/10 Svobodny pr., Room P6-16, 660041 Krasnoyarsk, Russia**