

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
БИОЛОГИЧЕСКИЙ ИНСТИТУТ**

СТАРТ В НАУКУ

МАТЕРИАЛЫ

**LXX научной студенческой конференции
Биологического института**

Томск, 26–30 апреля 2021 г.

**Томск
2021**

MICROALGAE IN WASTEWATER TREATMENT PLANTS

A.A. Zheleznyakova
stussyraikkonen@gmail.com

Nowadays, the protection of the environment from wastewater pollution is one of the most urgent problems. The topic of the development of methods of biological wastewater treatment needs particularly strong attention and promotion.

To begin with, algae are no doubt ideal accumulators of toxic substances and excess of chemical elements. However, not all methods of water purification are safe and absolutely effective. Different groups of scientists are working on this issue, and research is underway to adapt this technology to different climatic conditions.

The method of wastewater treatment by cultivating algae, in addition to water purification, contributes to the intensive growth of algae biomass, which in our time plays a rather large role in the economy. Growing algae in wastewater will save entrepreneurs from spending on fertilizers. Cultivation of algae is not hard or expensive, but waste-free. Algae biomass has applications in many industrial sectors and can be used as raw materials for many industrial sectors at any time. Algae absorb more than 90 percent of the nitrates and 50 percent of the phosphorus from water. Algae are able to inhibit the development of blue-green algae that produce algae toxins.

Overall, the use of algae for wastewater treatment is environmentally justified, since they use biogenic substances and carbon dioxide, and in the process of life they release oxygen into the environment. The method of wastewater treatment by cultivating algae should be developed in all countries. Thus, the method of wastewater treatment by cultivating algae can contribute to a more cost-effective and efficient solution to the problem of their contamination.

Academic advisor – L.A. Mitchell, PhD, Associate Professor