

Ksenija Savadova-Ratkus

CONTACT INFORMATION

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EDUCATION AND ACADEMIC DEGREE

2019 PhD, Natural Sciences, Ecology and Environmental Science (Vilnius University and Nature Research Centre).
Thesis: Bloom-forming cyanobacteria, cyanotoxins and significant factors for their dynamics in freshwaters
2013 Master in Botany, Faculty of Natural Sciences (Vilnius University)
2011 Bachelor in Biology, Teacher qualification (Vilnius Pedagogical University)

PROFESSIONAL EXPERIENCE

2022 11 – until now **Researcher**
Laboratory of Algology and Microbial Ecology
2020 11 – 2022 11 **Researcher**
Laboratory of Algology and Microbial Ecology
2017 01 – 2018 09 **Junior researcher**
Laboratory of Algology and Microbial Ecology
2016 01 – 2016 12 **Biologist**
Laboratory of Algology and Microbial Ecology
2015 09 – 2015 12 **Chief laboratory assistant**
Laboratory of Algology and Microbial Ecology

RESEARCH INTERESTS

Freshwater ecology and environmental research. Harmful cyanobacteria studies, detection of cyanotoxins and other metabolites in eutrophic lakes and isolates (ELISA, LC/MS-MS). Alien species, their establishment and studies on the effect of environmental factors on their development. Molecular studies of cyanobacteria (identification of species, assessment of genes responsible for toxin synthesis, etc.).

PUBLICATIONS

Scientific articles published in journals (books), indexed in „Clarivate Analytics Web of Science“ database (with citation index):

1. **Savadova-Ratkus, K.**, Mazur-Marzec, H., Karosienė, J., Sivonen, K., Suurnäkki, S., Kasperovičienė, J., Paškauskas, R., Koreivienė J., 2022. Cyanobacteria and their metabolites in mono- and polydominant shallow eutrophic temperate lakes. *Environmental Research and Public Health*, 19(22): 15341; <https://doi.org/10.3390/ijerph192215341>
2. **Savadova-Ratkus, K.**, Mazur-Marzec, H., Karosienė, J., Kasperovičienė, J., Paškauskas, R., Vítontytė, I., Koreivienė, J., 2021. Interplay of Nutrients, Temperature, and Competition of Native and Alien Cyanobacteria Species Growth and Cyanotoxin Production in Temperate Lakes. *Toxins*, 13(1), 23; doi.org/10.3390/toxins13010023

3. Donis, D., Mantzouki, E., McGinnis, D.F., [...], **Savadova-Ratkus, K.**, et al., 2021. Stratification strength and light climate explain variation in chlorophyll a at the continental scale in a European multilake survey in a heatwave summer. *Limnology and Oceanography*, 66(12): 4314-4333; doi.org/10.1002/lno.11963
4. Karosienė, J., **Savadova-Ratkus, K.**, Toruńska-Sitarz, A., Koreivienė, J., Kasperovičienė, J., Vitonytė, I., Błaszczuk, A., Mazur-Marzec, H., 2020. First report of saxitoxins and anatoxin-a production by cyanobacteria from Lithuanian lakes. *European Journal of Phycology*, 55:3, 327-338; doi.org/10.1080/09670262.2020.1734667
5. **Savadova, K.**, Mazur-Marzec, H., Karosienė, J., Kasperovičienė, J., Vitonytė, I., Toruńska-Sitarz, A., Koreivienė, J., 2018. Effect of increased temperature on native and alien nuisance cyanobacteria from temperate lakes: an experimental approach. *Toxins*, 10, 445; doi:10.3390/toxins10110445
6. Mantzouki, E., Campbell, J., van Loon, E., Visser, P., Konstantinou, I., Antoniou, M., <...>, **Savadova, K.** et al., 2018. A European Multi Lake Survey dataset of environmental variables, phytoplankton pigments and cyanotoxins. *Scientific Data*, 5:180226 doi: 10.1038/sdata.2018.226
7. Mantzouki, E., Lüring, M., Fastner, J., Senerpont Domis, L., Wilk-Woźniak, E., Koreivienė, J., Seelen, L., Teurlincx, S., Verstijnen, Y., Krztoń, W., Walusiak, E., Karosienė, J., Kasperovičienė, J., **Savadova, K.** et al., 2018. Temperature effects explain continental scale distribution of cyanobacterial toxins. *Toxins*, 10(4): 156; doi.org/10.3390/toxins10040156
8. Vičkačkaitė, V., Lingytė, A., Kasperovičienė, J., Bugelytė, B., Koreivienė, J., **Savadova, K.**, 2016. Selection of an esterification catalyst for assay of total fatty acid content in cyanobacteria and algae using gas chromatography. *Chemija*. 27 (4): 202-207
9. Karosienė, J., Kasperovičienė, J., Koreivienė, J., **Savadova, K.**, Vitonytė, I., 2016. Factors promoting persistence of the bloom-forming *Gonyostomum semen* in temperate lakes. *Limnologica*. 60: 51-58

Scientific articles published in conference proceedings, indexed in „Clarivate Analytics Web of Science“ database:

1. Grendaitė, D., Stonevičius, E., Karosienė, J., **Savadova, K.**, Kasperovičienė, J., 2018. Chlorophyll-a concentration retrieval in eutrophic lakes in Lithuania from Sentinel-2 data. *Geologija, Geografija*, 4(1): 15–28
2. Koreivienė, J., Kasperovičienė, J., **Savadova, K.**, Karosienė, J., Vitonytė, I., 2016. Collection of pure cultures of algae and cyanobacteria for research, teaching and biotechnological applications (Nature Research Centre, Lithuania). *Botanica Lithuanica*, 22(1): 87-92
3. **Savadova, K.**, 2014. The response of freshwater bloom-forming planktonic cyanobacteria to global warming and nutrients increase. – *Botanica Lithuanica*, 20(1): 57–63

PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS

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| 2017 – 2019 | Participant of the Lithuanian research team. Cyanobacteria, Viruses, Protozoan and Metazoan - Understanding ecological interactions in communities of aquatic ecosystems. International cooperation between Lithuanian and Polish academies of sciences. |
| 2012 – 2014 | Project participant. Plankton communities response to <i>Gonyostomum semen</i> establishment and other biotic, abiotic factors (BeGONY) No. LEK-02/2012 |

INTERNSHIP AND TRAINING

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| 2018 m. 03 | Internship „Production of secondary metabolites of freshwater cyanobacteria applicable in biotechnology“ (University of Gdansk, Poland) |
| 2017 m. 03 | Internship „Bloom-forming cyanobacteria, cyanotoxins and factors responsible for their dynamics“ (University of Gdansk, Poland) |
| 2016 m. 11 / 12 | Internship „Determination and quantification of cyanotoxins in cyanobacteria strains and environmental samples from eutrophic lake“ (University of Gdansk, |

Poland)

- 2014 m. 11/12 Internship „Cyanotoxins methods acquisition: molecular and LC-MS“ (University of Helsinki, Finland)
- 2013 m. 12 Internship „Molecular methods for the *Gonyostomum* studies“ (University of Lund, Sweden)

PARTICIPATION IN SCIENTIFIC CONFERENCES

Scientific conferences:

Participated in the preparation of 19 abstracts for scientific conferences. Research material was presented at 5 conferences (4 posters and 1 oral presentation were prepared).

1. Grendaitė, D., Stonevičius, E., **Savadova-Ratkus, K.**, Karosienė, J., Kasperovičienė, J., Koreivienė, J., 2022. Modelling the response of potentially toxic cyanobacteria to rising temperature and nutrient loadings. ArQus European University Alliance. Vilnius, Lithuania
2. Koreivienė, J., Karosienė, J., Vitonytė, I., **Savadova, K.**, Staniulis, D., Spudulytė, S., Legotaitė, M., Želvis, K., Kasperovičienė, J., 2019. Prospecting of indigenous freshwater microalgae as a resource for lipids and pigments. EUALGAE Final conference – European recent advances in the microalgae field. Madrid, Spain
3. Kasperovičienė, J., **Savadova-Ratkus, K.**, MazurMarzec, H., Karosienė, J., Vitonytė, I., Toruńska-Sitarz, A., Koreivienė, J., 2019. Importance of temperature on the growth of native and alien cyanobacteria strains from temperate lakes. 11 th Symposium for European Freshwater Sciences, June 30–July 5, 2019. p. 387, Zagreb, Croatia
4. Grendaitė, D., Stonevičius, E., Karosienė, J., **Savadova-Ratkus, K.**, Kasperovičienė, J., 2019. Seasonal Variation of Satellite Derived Chlorophyll-a Concentration in Eutrophic and Hypertrophic Lakes. 2019 Living Planet Symposium 13–17 May 2019, Milan, Italy
5. Koreivienė, J., Kasperovičienė, J., Karosienė, J., **Savadova, K.**, Vitonytė, I., Valčiukas, R., Staniulis D., Želvis, K., 2018. Prospecting of indigenous freshwater microalgae as a valuable regional resource. 37th International Conference of the Polish Phycological Society. Kraków-Dobczyce, Poland
6. Grendaitė, D., Stonevičius, E., Karosienė, J., **Savadova, K.**, Kasperovičienė, J., 2018. Ecological water quality assessment of Lithuanian lakes using remote sensing. 61st international conference for students of physics and natural sciences. Vilnius, Lithuania
7. **Savadova, K.**, Karosienė, J., Toruńska-Sitarz, A., Koreivienė, J., Kasperovičienė, J., Vitonytė, I., Błaszczuk, A., Mazur-Marzec, H., 2017. Cyanobacterial neurotoxins and their producers in temperate lakes in Lithuania. 11th International Phycological Congress. The challenges and opportunities of the molecular era for algal research and bioprospecting. P. 166-167, Szczecin, Poland
8. Koreivienė, J., Kasperovičienė, J., Karosienė, J., **Savadova, K.**, Vitonytė, I., Valčiukas, R., Staniulis D., Želvis, K., 2018. Prospecting of indigenous freshwater microalgae as a valuable regional resource. 37th International Conference of the Polish Phycological Society. Kraków-Dobczyce, Poland
9. Grendaitė, D., Stonevičius, E., Karosienė, J., **Savadova, K.**, Kasperovičienė, J., 2018. Chlorophyll-a concentration retrieval from Sentinel-2 data in lakes in Lithuania. EcoBalt 2018: the international conference proceedings book. Vilnius, Lithuania
10. Stonevičius, E., Grendaitė, D., Karosienė, J., **Savadova, K.**, Kasperovičienė, J., 2018. Sentinel 2 data for retrieval of chlorophyll- α concentration in small lakes. 17th biennial conference ERB2018 Euromediterranean network of experimental and representative basins; Innovative monitoring techniques and modelling approaches for analysing hydrological processes in small basins. Darmstadt, Germany
11. **Savadova, K.**, Karosienė, J., Toruńska-Sitarz, A., Koreivienė, J., Kasperovičienė, J., Vitonytė, I., Błaszczuk, A., Mazur-Marzec, H., 2017. Cyanobacterial neurotoxins and their producers in temperate lakes in Lithuania. 11th International Phycological Congress. The challenges and opportunities of the molecular era for algal research and bioprospecting. P. 166-167, Szczecin, Poland
12. Kasperovičienė J., Koreivienė J., Karosienė J., Vitonytė I., **Savadova K.**, Melvydas V.B., Matulienė J., 2017. Shedding new light on undiscovered traits of the bloom-forming raphidophyte *Gonyostomum*

- semen. 36th International Conference of the Polish Phycological Society. P. 25, Lublin – Kazimierz Dolny, Poland
13. **Savadova, K.**, Koreivienė, J., Karosienė, J., Kasperovičienė, Vitonytė, I., 2016. Recovery of shallow lake from cultural eutrophication in the light of climate change. XXXVth International Conference of the Polish Phycological Society. Algae in anthropogenically transformed ecosystems. P. 92, Łódź-Stryków, Poland
 14. **Savadova, K.**, Mickevičiūtė A., Matulienė J., Koreivienė J., Karosienė J., Vitonytė I., Kasperovičienė J., 2016. Freshwater microalgae as a source of anti-cancer agents. XIVth International Conference of the Lithuanian Biochemical Society. P. 109, Druskininkai, Lithuania
 15. **Savadova, K.**, Koreivienė, J., Sivonen, K., Kasperovičienė, J., Suurnäkki, S., Karosienė, J., Wahlsten, M., Vitonytė, I., 2015. Variation of bloom forming cyanobacteria and microcystins in shallow hypertrophic lake. Sixth European phycological congress. Algae brings life to the world. P. 204, London, UK
 16. Kasperovičienė, J., Karosienė, J., Koreivienė, J., **Savadova, K.**, Vitonytė, I., 2015. Peculiarities of *Gonyostomum semen* establishment in lakes of different trophy: an experimental approach. Sixth European phycological congress. Algae brings life to the world. P. 205, London, UK
 17. Koreivienė, J., Karosienė, J., Kasperovičienė, J., **Savadova, K.**, Vitonytė, I., 2014. *Gonyostomum semen* impact on spring phytoplankton communities in lakes of different trophy. 33th International conference of the Polish Phycological society. Cyanobacterial and algal blooms – effects on water management and human health. P. 84, Gdynia-Cetniewo, Poland
 18. Koreivienė, J., Karosienė, J., Kasperovičienė, J., **Savadova, K.**, 2013. The response of invasive *Gonyostomum semen* to temperature change: an experimental approach. 32nd International Conference of Polish Phycologists. Do thermophilic species invasion threaten us? P. 26, Konin-Mikorzyn, Poland
 19. Karosienė, J., Koreivienė, J., **Savadova, K.**, Kasperovičienė, J., 2012. Effect of temperature and light on germination of *Gonyostomum semen* cysts. 31st International conference of Polish Phycological Society. Algae in human environment. P. 45, Olsztyn, Poland

PARTICIPATION IN THE STUDY PROCESS

Consultant:

- 2017 School graduation thesis consultant, graduate of the Lithuanian University of Health Sciences (LSMU) gymnasium. Topic: Growth rate of harmful cyanobacteria dependence on temperature

OTHERS

1. Koreivienė, J., Karosienė, J., Kasperovičienė, J., **Savadova-Ratkus, K.**, 2022. Pasakė, ar tinka žvejoti „žydinčiame“ vandens telkinyje: pažiūrėkite, kaip atrodo jame sugautos žuvies kepenys. – DELFI, Kablys, Žvejyba