

# Ričardas Paškauskas

## CONTACT INFORMATION

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## EDUCATION AND ACADEMIC DEGREE

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1980 (M.Sc.) Vilnius University; Lithuania, Biology Supervisor: Dr. A. Baranauskiene; Thesis: "Bacterioplankton of the Baltic Sea"  
1986 (Ph.D) Moscow University, Russia; Supervisor: prof. S. I. Kuznecov; Aquatic microbiology; Thesis: "Microbiological processes of nitrogen cycle in Druksiai Lake - water cooling reservoir of Ignalina nuclear power plant"

## PROFESSIONAL EXPERIENCE

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2020 till now Deputy Director for Experimental Development; Chief researcher – Laboratory algology and microbial ecology, Nature Research Centre, Vilnius;  
2014 - 2020 Chief researcher Head of the Laboratory algology and microbial ecology, Nature Research Centre, Vilnius;  
2012–2013 Senior researcher – Laboratory of radioecology, Nature Research Centre, Vilnius;  
2010–2011 Senior researcher, Head of the Laboratory of radioecology, Nature Research Centre, Vilnius;  
2006-2009 Senior researcher – Laboratory of hydrobotany, Institute of Botany, Vilnius;  
2006 - 2016 Senior researcher – Klaipeda University, Marine Science and Technology Centre (part time);  
1991-2006 Head of the Laboratory of hydrobotany, Institute of Botany, Vilnius;  
1986-1991 Research fellow – Laboratory of hydrobotany, Institute of Botany, Vilnius;  
1983-1985 Post-graduate course – Institute of Botany, Lithuanian Academy of Sciences, Vilnius;  
1979-1982 Assistant – Laboratory of hydrobotany, Institute of Botany, Vilnius.

## RESEARCH INTERESTS

Research on the diversity and interaction of microorganisms in fresh and brackish water ecosystems, with the focus on analysis of biogeochemical cycles of carbon, nitrogen, and sulfur under anthropogenic pollution and eutrophication conditions. Assessment of the functioning and condition of vulnerable aquatic environments such as the Curonian Lagoon of the Baltic Sea and lakes of karstic origin. A particular attention is paid to the anthropogenic impact on the formation of water quality in lakes and reservoirs. Assessment of the state of water bodies heavily impacted by human activities, setting of water protection goals, and selection of measures to achieve water protection goals.

## SELECTED ACTUAL PUBLICATIONS

1. SAVADOVA-RATKUS K., MAZUR-MARZEC H., KAROSIENĖ J., KASPEROVIČIENĖ J., **PASKAUSKAS R.**, VITONYTĖ I., KOREIVIENĖ J. 2022. Cyanobacteria and Their Metabolites in Mono- and Ploidominant Shallow Eutrophic Temperate Lakes. *Int. J. Environ. Res. Public Health*, 19, 15341. <https://doi.org/10.3390/ijerph192215341>
2. CLARKE A.E., RIMGAILĖ-VOICIK R., **PAŠKAUSKAS R.**, MAŽEIKA J. 2022.  $\delta^{13}\text{C}$  in above-ground and below-ground organs of *Spinulum annotinum* (Lycopodiaceae). *Flora*, 294 152119. <https://doi.org/10.1016/j.flora.2022.152119>
3. ŠULČIUS S., ALZBUTAS G., JUKNEVIČIŪTĖ V., ŠIMOLŪNAS E., VENCKUS P., ŠIMOLŪNIENĖ M., **PAŠKAUSKAS R.** 2021. Exploring viral diversity in a gypsum karst lake ecosystem using targeted single-cell genomics. *Genes*, 12(6), 886. <https://doi.org/10.3390/genes12060886>
4. SAVADOVA-RATKUS K., MAZUR-MARZEC H., KAROSIENĖ J., KASPEROVIČIENĖ J., **PASKAUSKAS R.**, VITONYTĖ 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(23):1-16
5. ADAMOVICH B., MIKHEEVA T., SOROKOVIKOVA E., BELYKH O. **PASKAUSKAS R.**, KUZMIN A., FEDOROVA G., ZHUKAVA H., KAROSIENE J. 2021. Phytoplankton of the transboundary River Viliya (Neris): community structure and toxic cyanobacterial blooms. : *Baltica*, Vol. 34 (2): 174-184. DOI: 10.5200/baltica.2021.2.4.
6. JEFANOVA O., MAŽEIKA J., PETROŠIUS R., SKURATOVIČ Ž., **PAŠKAUSKAS R.**, MARTMA T., LIBLIK T. & EZHOVA E. 2020. Baltic Sea water tritium and stable isotopes in 2016–2017. *Isotopes in Environmental and Health Studies*, 56(2): 193–204.
7. ŠULČIUS S., ŠIMOLIŪNAS E., ALZBUTAS G., GASIŪNAS G., JAUNIŠKIS V., KUZNECOVA J., MIETTINEN S., NILSSON E., MEŠKYS R., ROINE R., **PAŠKAUSKAS R.**, HOLMFELDT K. 2019. Genomic characterisation of cyanophage vB\_AphaS-CL131 infecting filamentous diazotrophic cyanobacteria *Aphanizomenon flos-aquae* reveals novel insights into virus-bacterium interactions. *Applied and Environmental Microbiology*, Vol. 85 (1): e01311-18.
8. BARISEVICIUTE R., MACEIKA E., EZERINSKIS Z., MAZEIKA J., BUTKUS L., SAPOLAITE J. GARBARAS A., **PASKAUSKAS R.**, JEFANOVA O., KAROSIENE J., KASPEROVICIENE J., REMEIKIS V. 2019. Tracing Carbon Isotope Variations in Lake Sediments Caused by Environmental Factors During the Past Century: A Case Study of Lake Tapeliai, Lithuania. Vol. 61(4): 885 – 903. <https://doi.org/10.1017/RDC.2019.63>.
9. SYRPAS M., BUKAUSKAITĖ J., **PAŠKAUSKAS R.**, BAŠINSKIENĖ L., VENSKUTONIS P.R. 2018. Recovery of lipophilic products from wild cyanobacteria (*Aphanizomenon flos-aquae*) isolated from the Curonian Lagoon by means of supercritical carbon dioxide extraction. *Algal Research*, 35: 10-21.
10. ŠULČIUS S., REUNAMO A., **PAŠKAUSKAS R.**, LESKINEN P. 2018. Influence of environmental variation on the bacterioplankton community and its loss to viral lysis in the Curonian Lagoon. *Estuarine, Coastal and Shelf Science*, 204: 76-85. ŠULČIUS S., SLAVUCKYTĖ K., **PAŠKAUSKAS R.** 2017. The Predation Paradox: Synergistic and antagonistic interactions between grazing by crustacean predator and infection by cyanophages promotes bloom formation in filamentous cyanobacteria. *Limnology and Oceanography*, 62(5): 2189-99.
11. ŠULČIUS S., SLAVUCKYTĖ K., JANUŠKAITĖ M., **PAŠKAUSKAS R.** 2017. Establishment of axenic cultures from cyanobacterium *Aphanizomenon flos-aquae* akinetes by micromanipulation and chemical treatment. *Algal Research*, 23: 43-50.
12. ŠULČIUS S., PILKAITYTĖ R., MAZUR-MARZEC H., KASPEROVIČIENĖ J., EZHOVA E., BŁASZCZYK A., & **PAŠKAUSKAS R.** 2015. Increased risk of exposure to microcystins in the scum of the filamentous cyanobacterium *Aphanizomenon flos-aquae* accumulated on the western shoreline of the Curonian Lagoon. *Marine Pollution Bulletin*, 99(1-2): 264-70.

13. ŠULČIUS S., ŠIMOLIŪNAS E., STANIULIS J., KOREIVIENĖ J., BALTRUŠIS P., MEŠKYS R., PAŠKAUSKAS R. 2015. Characterization of a lytic cyanophage that infects the bloom-forming cyanobacterium *Aphanizomenon flos-aquae*. FEMS Microbiology Ecology, 91(2):1-7.
14. SULCIUS S., STANIULIS J., PASKAUSKAS R., OLENINA I, SALYTE A., IVANAUSKAITE A., GRINIENE E. 2014. Absence of evidence for viral infection in colony-embedded cyanobacterial isolates from the Curonian Lagoon. Oceanologia 56 (3): 651–660.
15. ŠVANYS A., PAŠKAUSKAS R. HILT S. 2013. Effects of the allelopathically active macrophyte *Myriophyllum spicatum* on a natural phytoplankton community: a mesocosm study. Hydrobiologia. DOI 10.1007/s10750-013-1782-4.
16. KAROSIENE J., PASKAUSKAS R. 2012. Epiphyton structural, functional diversity and spatial variability in the temperate estuarine Curonian Lagoon. Estuarine, Coastal and Shelf Science. Vol. 114 (2012) p. 100-104.
17. SULCIUS S., STANIULIS J., PASKAUSKAS R. 2011. Morphology and distribution of phage-like particles in a eutrophic boreal lagoon. Oceanologia 53(2) p. 587–603.
18. SULCIUS S., STANIULIS J., PASKAUSKAS R. 2011. Methods Comparison for Quantitative Analysis of Virus Like Particles in Eutrophicated Aquatic Environments. Botanica Lithuanica 17(2), 127–133.
19. ZAIKO A., PASKAUSKAS R, KREVS A. 2010. Biogeochemical alteration of benthic environment by zebra mussel *Dreissena polymorpha* (Pallas). Oceanologia 52(4) p. 649–667.

#### **BOOK CHAPTERS**

1. TATJANA NEDVECKAITE, DANUTE MARCIULIONIENE, JONAS MAZEIKA and RICARDAS PASKAUSKAS (2011). Radiological and Environmental Effects in Ignalina Nuclear Power Plant Cooling Pond – Lake Druksiai: From Plant put in Operation to Shut Down Period of Time, Nuclear Power - Operation, Safety and Environment, Dr. Pavel Tsvetkov (Ed.), InTech. 368 p. ISBN: 978-953-307-507-5,
2. MARCIULIONIENĖ, D.; MONTVYDIENE D. PASKAUSKAS R. (2011). Impact of wastewater of the Ignalina Nuclear Power Plant on Lake Drūkšiai before plant Decommissioning (2007–2009). In: P. Hlavivinek et al. (eds.). Advanced Water Supply and Wastewater. Treatment: A road to Safer Society and Environment. Springer. Science+Business Media B.V.: 277-286
3. HOVIK H PANOSYAN, P. V. TOZALAKYAN, R. PASKAUSKAS, A. ZVIKAS, YU. G. POPOV, (2006). Identification and Some Enzymatic Properties of New Thermophilic Bacilli. In: New Research on the Environment and Biotechnology, Edited by G.E. Zaikov, A.E. Kuznetsov; Nova Science Publisher Inc. p. 159-174. ISBN: 1-6002-042-2
4. JULIUS TAMINSKAS, RICARDAS PASKAUSKAS, AUDRIUS ZVIKAS, JONAS SATKUNAS. (2006). Karst and Ecosystems. In: Geology and Ecosystems, Verlag: Springer US p. 159-174. DOI:10.1007/0-387-29293-4\_6
5. PAŠKAUSKAS R. (chrn.), JASIULIONIS R., MARČIULIONINIENĖ D., MAŽEIKA J., SADAUSKAS K., SUKACKIENĖ D. (ed.), (1995) The impact of the Ignalina Power plant on nature and society: Collection of scientific papers., Vilnius, ISBN - 9986-662-02-8. 321 p.

#### **PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH PROGRAMMES AND SCIENCE PROJECTS**

- 2021 - 2023 Project “Feasibility study of collecting phytoplankton biomass in the Curonian Lagoon using floating vessels and utilizing the collected biomass in bioreactors, adapting it to agrotechnological needs or other purposes” (FITOBIO). Financed by the Lithuanian EPE; contract No. 28T-2021-34. [Project leader]
- 2017 - 2019 Project: Research on prediction of environmental change in the Baltic Sea based on comprehensive (meta)genomic analysis of microbial viruses (METAVIR). Research Council of Lithuania, Partnership Lithuanian - Japan researchers. [Project leader].

- 2014 - 2018 COST action No. ES1408 European network for algal-bioproducs (EUALGAE)“. Deputy member of the state representative in the activity management committee.
- 2015 - 2016 Project: Service of investigation of nutrients in bottom sediments of the Curonian Lagoon and their impact on the Curonian Lagoon ecosystem (KUMADUBI) project founded by Lithuanian Environmental Protection Agency [Project leader];
- 2011 - 2015 Project: Preparation of documents for strengthening environmental protection management in the Lithuanian Baltic Sea (SUT-11P-23/4F11-34) project founded by Lithuanian Environmental Protection Agency [Project partner];
- 2012 - 2014 Project: Synthesis of new methods for research of adaptation mechanism of invasive species (IANUS), Research Council of Lithuania: No. LEK-09/2012. [Projects partner];
- 2012 - 2014 Project: Lakes for future – Cross Border Cooperation for Sustainable Management of Lake Areas in Kurzeme and Lithuania, LLIV-326, Latvia – Lithuania Cross Border Cooperation Programme. [Project coordinator];
- 2012–2014 Project: Prokaryote-virus-protist-algae interactions in the eutrophicated aquatic ecosystem (PROTEUS), Research Council of Lithuania, Grant No. MIP-036/2012. [Project leader];
- 2010-2011 Project: “Alien *Gonyostomum* – biological peculiarities, genetic diversity and adaptations in new areas” (SVETIGA),, Research Council of Lithuania. Grant No. LEK - 14/2010 [Projects partner];
- 2008-2011 Project: A system for the sustainable management of Lithuanian marine resources using novel surveillance, modelling tools and an ecosystem approach, The EEA, and Norway Grants, LT0047. [Projects partner];  
The project financed by the Consortium - Poyry Energy OY-Lithuanian Energy Institute - the scientific research study "The State of the Drūkšiai Lake Ecosystem" in fulfilment of the contract with JSC Lithuanian Energy "Preparation of the environmental impact assessment report of the new NPP". Contract no. 14-193.8.8 [Lead of Working Group];
- 2008-2010 Project: Biological invasions in Lithuanian ecosystems under the climate change: cases, impacts and projections (BINLIT). Programs, initiated by the Lithuanian Science Foundation in accordance with priority trends of government programs “Ecosystems and Climate Change” [Projects partner];
- 2007-2008 Project: Nitrogen fixation in the Curonian Lagoon - rates and importance for ecosystem functioning and water quality, LT state science foundation, S/N-T-73, [Project leader]
- 2007 Project: "Isolation and use of strains of microorganisms from various ecological niches for the search for endonucleases", JSC "Fermentas", implementing the topic "Optimized molecular tools for genome research" (BPD) No. 581. The implementation of the research supported by Lithuanian state science foundation; S/No. G-47/07. [Project leader];
- 2004 - 2005 Project: Viruses in Lithuanian water bodies – diversity and impact to the microbial communities, Lithuanian state science foundation, No. T-14/04, and No. T-66/05 [Project leader];
- 2004 - 2006 NATO/CCMS Pilot Study „Ecosystem Modelling of Coastal Lagoons for Sustainable Management” [Projects partner];
- 2000 - 2002 NATO Pilot Study “Comparative Study of Hydrological and Ecological Balance of Tectonic and Dammed Origin Lacustrine Basins” (C/No. EST.CLG.977098) [projects partner];
- 2000 - 2001 Project: Biotic interactions in aquatic microbial loop, Lithuanian state science foundation Nr. 402, [Project leader];
- 1999 - 2004 NATO Pilot Study “Modelling Nutrient Loads and Response in River and Estuary Systems”, (C/No. EAPC(CCMS)D (99)4) [Projects partner];
- 1999 - 2000 Project: Preparation of Specialized monitoring program for Ignalina NPP region, Ministry of Environment of Lithuania [Project leader];
- 1998 - 1999 Project: Biotic interactions in aquatic microbial loop, Lithuanian state science foundation Nr. 402, [Project leader];

1993 - 1997 Lithuanian State Scientific Research Programme “Ignalina Nuclear Power Plant and the environment” [Project leader].

## **PARTICIPATION IN THE STUDY PROCESS**

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### ***Supervision of PhD, bachelor, and master students:***

Supervision and Counselling for PhD studies (2000 - 2022) – 7 in total.

Supervision of master's studies and diploma theses (1992-2019) – 25 in total.

Supervision of bachelor studies and course works (1992-2019) 1 - 3 students annually.

Part-time lecturer at the Faculty of Natural Sciences of Vilnius University (1991; 1993-2000), course: "Microbiological processes in freshwater ecosystems".

Participation in the PhD theses defence commissions (1996-2016) - 10 in total Vilnius and Klaipeda universities.

Member of the doctoral committee of Ecology and Environmental Studies department; Klaipeda University's (2011 - 2016).

Preparation of doctoral study programmes (2011 - 2016): Hydrobiology - Vilnius University; Water biogeochemistry - Klaipeda University.

## **ADDITIONAL INFORMATION**

### ***Professional affiliations***

Member of Lithuanian society of Hydrobiology, Lithuanian society of Microbiology and Lithuanian society of Metalecology.

### ***Editorial board activities***

Member of Editorial Board of journal „Botanica Lithuanica“ - 1995 – 2012;

Member of Editorial Board of journal “Journal of Aquaculture Engineering and Fisheries Research” E-ISSN 2149-0236 – since 2014.

### ***Activities in international committees and expert working groups***

Delegated national expert to Programs Committees of EU's research and innovation funding programmes Horizon 2020 SC 2 on “Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy” (2015-2020), and of Horizon Europe of Cluster 6 configuration “Food, Bioeconomy, Natural Resources, Agriculture and Environment” (since 2021);

Delegated member of Expert Group IN-Eutrophication of Baltic Marine Environment Protection Commission HELCOM.

Vilnius, January 2023