

Renata Butrimienė

CONTACT INFORMATION

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EDUCATION AND ACADEMIC DEGREE

2019 – 2023 PhD student of Natural Sciences, Ecology and Environmental Studies (N 012) (Laboratory of Ecotoxicology of the Nature Research Center).
Dissertation theme: “Fish as trophic ontogenesis model in transfer of nanoparticles within water trophic chains in climate change context”, leader: dr. Nijolė Kazlauskienė.

2012 – 2014 Vilnius University, Chemistry / Master.
Master Degree Thesis: “Determination of Magnesium by Flame Atomic Absorption Spectrometry”.
The work was carried out at the Faculty of Chemistry, in the laboratory of analytical chemistry.
Research area: determination of heavy metals, AAS methods.

2008 – 2012 Vilnius University, Chemistry / Bachelor.
Master Degree Thesis: “Determination of Manganese in mushrooms by Flame Atomic Absorption Spectrometry”.
The work was carried out at the Faculty of Chemistry, in the laboratory of analytical chemistry.
Research area: determination of heavy metals, AAS methods.

PROFESSIONAL EXPERIENCE

2019 10 – until now **Biologist**
Laboratory of Ecotoxicology, Nature Research Center

2017 02 – until now **Chief Chemist**
UAB „MIMAKI Lithuania“, Laboratory of solvent ink and pigment

2014 02 – 2016 11 **Chemist**
Laboratory of Algology and Microbial Ecology, Nature Research Center

2011 07 – 2011 09 **Laboratory assistant**
AB “ACTAS”, Lithuania, practice

RESEARCH INTERESTS

Research area: using fish as a model for nutritional ontogenesis to comprehensively investigate the effects of nanomaterials (NM) on the gut microbiota of fish, NM transfer through aquatic food chains, and to find out the fate of NM in water, bottom sediments, and organisms depending on environmental factors. Evaluation of the effects of CdSe/ZnS-COOH and CuInS/ZnS-COOH quantum dots (QD) and Cd²⁺ ions separately on fish embryos, larvae and fry. NM photoluminescence and their distribution in the fish body, NM structure, size, concentration, stability, aggregation, agglomeration, metal accumulation in embryos, larvae and juveniles were studied by physicochemical methods. To investigate by microbiological and molecular methods, the antibacterial activity of NM and Cd²⁺ ions against bacteria isolated from the intestines of salmonids and to perform *in vivo* studies of the gut microbiota of fish. To find out the causes of changes in the gut microbiota that can cause dysbiosis and endanger fish health.

PUBLICATIONS

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

1. Jurgelėnė Ž., Montvydienė D., Šemčuk S., Stankevičiūtė M., Sauliūtė G., Pažusienė J., Morkvėnas A., Butrimienė R., Jokšas K., Pakštas V., Kazlauskienė N., Karabanovas V. 2022. The impact of co-treatment with graphene oxide and metal mixture on *Salmo trutta* at early development stages: The sorption capacity and potential toxicity. *Science of the Total Environment*, 838: art. no. 156525. <http://dx.doi.org/10.1016/j.scitotenv.2022.156525>.
2. Butrimienė R., Kalnaitytė A., Januškaitė E., Bagdonas S., Jurgelėnė Ž., Butkauskas D., Virbickas T., Montvydienė D., Kazlauskienė N. and Skrodenytė-Arbačiauskienė V. 2022. Interactions of semiconductor Cd-based quantum dots and Cd²⁺ with gut bacteria isolated from wild *Salmo trutta* fry. *PeerJ*, 10, 1-22. <https://doi.org/10.7717/peerj.14025/supp-6>.
3. Montvydienė, D., Jagminas, A., Jurgelėnė, Z., Kazlauskas, M., Butrimienė, R., Žukauskaitė, Z., Kazlauskienė, N. (2021) Toxicological effects of different-sized Co-Fe (CoFe₂O₄) nanoparticles on *Lepidium sativum* L.: towards better understanding of nanophytotoxicity. *Ecotoxicology*, 30 (2): 277–291. DOI: 10.1007/s10646-020-02340-y.

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

1. Butrimienė R., Kalnaitytė A., Januškaitė E., Bagdonas S., Jurgelėnė Ž., Butkauskas D., Virbickas T., Montvydienė D., Kazlauskienė N. and Skrodenytė-Arbačiauskienė V. 2022. An in vitro assay to assess the antibacterial efficacy of Cd-based, Cd free quantum dots and Cd²⁺ on gut bacteria from wild *Salmo trutta* fry. *Book of Proceedings 9th International Conference on Environmental Management, Engineering, Planning & Economics (CEMEPE 2022) and SECOTOX, Mykonos, Greece, June 5-9, 2022*, pp. 258-267 ISBN: 978-618-5494-97-1.
2. Jurgelėnė, Ž., Butrimienė, R., Kazlauskienė, N., Montvydienė, D., Skrodenytė-Arbačiauskienė, V., Stankevičius, M., Rotomskis, R. 2020, Investigations of QDs impact on fish trophic ontogenesis. *Proceedings of Conference Protection and Restoration of the Environment XV July 7-10, 2020, Kalamata, Greece* <http://www.preXV.civil.upatras.gr>.

PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS

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| 2020 – 2023 | Executor of Project of Research Council of Lithuania „Fish as trophic ontogenesis model in transfer of nanoparticles within water trophic chains in climate change context. Project: S-MIP-20-22“ |
| 2020 – 2022 | Executor of International project: „Smart water management for sustainable society, framework for organisational decision-making process in water reuse for smart cities“ (Smart-Waterdomain) Partner and representative for Lithuania Nijolė Kazlauskienė |

PARTICIPATION IN SCIENTIFIC CONFERENCES

International scientific conferences:

1. **Butrimienė R.**, Jurgelėnė Ž., Montvydienė D., Jokšas K., Šemčuk S., **Kazlauskienė N.** 2022. Influence of graphene oxide on the accumulation of metals in *Salmo trutta* at early life stages. 3rd Baltic Biophysics Conference. October 6-7th, 2022 in the Center for Physical Sciences and Technology, Saulėtekio av. 3, Vilnius, Lithuania. P. 92 <https://bbc.lbfd.lt/>
2. Kazlauskas, M., Jurgelėnė, Ž., **Butrimienė, R.**, Kazlauskienė, N., Montvydienė, D. 2022. Risk assessment of nano- and micro-sized materials for terrestrial and aquatic ecosystems. *Book of Proceedings Ninth International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2022) and SECOTOX*, Mykonos island, Greece, June 3 to 9. 2022, pp. 239-247 ISBN: 978-618-5494-97-1
3. **Butrimienė R.**, Kalnaitytė A., Januškaitė E., Bagdonas S., Jurgelėnė Ž., Butkauskas D., Virbickas T., Montvydienė D., Kazlauskienė N. and Skrodenytė-Arbačiauskienė V. 2022. An *in vitro* assay to assess the antibacterial efficacy of Cd-based, Cd free quantum dots and Cd²⁺ on gut bacteria from wild *Salmo trutta* fry. *Book of Proceedings 9th International Conference on Environmental Management, Engineering, Planning & Economics (CEMEPE 2022) and SECOTOX*, Mykonos, Greece, June 5-9, 2022, pp. 258-267 ISBN: 978-618-5494-97-1.
4. Kazlauskas M., **Butrimienė R.**, Montvydienė D., Jurgelėnė Ž., Jagminas A., Kazlauskienė N. 2020. Impact of magnetic nanoparticles (CoFe₂O₄, MnFe₂O₄ and Fe₃O₄) on *Lepidium sativum* L. Abstract book. Conference of Natural and Life sciences COINS, Vilnius 2020 kovo mėn. (stendinis pranešimas)
5. Montvydienė D., Jurgelėnė Ž., Kazlauskas M., **Butrimienė R.**, Šemčiuk S., Makaras T., Jokšas K., Kazlauskienė N. 2020. The impact of graphene oxide nanostructures on phytotoxicity of metal mixtures and metal uptake in *Lepidium sativum*. Abstract book. Sixth International Symposium on Green Chemistry, Sustainable Development and Circular Economy Thessaloniki, Greece, from September 20 to 23, 2020, Žodinis pranešimas (PPT online).
6. Jurgelėnė Ž., Montvydienė D., **Butrimienė R.**, Kazlauskas M., Šemčiuk S., Makaras T., Jokšas K., Kazlauskienė N. 2020. Influence of graphene oxide nanostructures on mitigation of metals toxicity to fish at early development Abstract book. Sixth International Symposium on Green Chemistry, Sustainable Development and Circular Economy Thessaloniki, Greece, from September 20 to 23, 2020, Žodinis pranešimas (PPT online).
7. Jurgelėnė Ž., **Butrimienė R.**, Kazlauskienė N., Montvydienė D., Skrodenytė-Arbačiauskienė V., Stankevičius M., Rotomskis R. 2020. Investigations of QDs impact on fish trophic ontogenesis. Proceedings of conference Protecton and Restoraton of the Environment XV July 7-10, 2020, Kalamata, Greece, pp. 667. <http://www.preXV.civil.upatras.gr>

National scientific conferences:

1. **Butrimienė R.**, Skrodenytė-Arbačiauskienė V., Montvydienė D., Jurgelėnė Ž., Butkauskas D., Kazlauskienė N. 2021. Effects of Cd based, Cd free quantum dots and Cd²⁺ on isolated Gut microbiota of *Salmo trutta* fry. Abstract book. 64th International Conference Open Readings 2021 March 16-19, Vilnius Lithuania. Open Readings 2021, March 16-19, 2021, Vilnius, Lithuania Abstract book. 04-5 P. 53. https://www.openreadings.eu/wp-content/uploads/2021/03/Abstract_book_2021S.pdf (oral presentation)
2. Kazlauskas M., **Butrimienė R.**, Montvydienė D., Jurgelėnė Ž., Jagminas A., Kazlauskienė N. Impact of magnetic nanoparticles (CoFe₂O₄, MnFe₂O₄ and Fe₃O₄) on *Lepidium sativum* L. ABSTRACT. Conference of Natural and Life sciences (COINS), 2020 kovas, Poster.

OTHERS

Lithuanian scientific conferences, events, interviews and publications:

1. Jurgelėnė Ž., Kazlauskas M., Butrimienė R. Bučaitė A. 2022. 3-oji Baltijos biofizikų konferencija <https://gamtostyrimai.lt/.../3-oji-baltijos-biofiziku..> ir <https://bbc.lbfd.lt/>