

# Iglė Vepštaitė-Monstavičė

## CONTACT INFORMATION

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## EDUCATION AND ACADEMIC DEGREE

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- 2015 – 2021 PhD at Laboratory of Genetics in Nature Research Centre (Vilnius, Lithuania), in accordance with doctoral study right granted to Vytautas Magnus University (Kaunas, Lithuania) jointly with Nature Research Centre and Centre of Innovative Medicine (Vilnius, Lithuania). Title of the thesis: “The structure of fruit mycobiota and functioning mechanisms of its components – killer systems of *Saccharomyces* genus yeasts”. Supervisor – dr. Elena Servienė.  
Research interests: fruits microbiota, yeast killer systems.
- 2013 – 2015 Master’s degree in Genetic, Vilnius University, Vilnius, Lithuania.  
Title of the thesis: “Interaction of yeast genetic factors in response to K2 toxin stress”. Supervisor – dr. Elena Servienė (accomplished at Nature Research Centre, Laboratory of Genetics).  
Research interests: gene engineering, functional analysis.
- 2009 – 2013 Bachelor’s degree in Bioengineering, Vilnius Gediminas Technical University, Vilnius, Lithuania. Title of the thesis: “Impact of chitosan on *Escherichia coli* bacteria”. Supervisor – dr. Elena Servienė (accomplished at Nature Research Center, Laboratory of Genetics).  
Research interests: antimicrobial analysis.

## PROFESSIONAL EXPERIENCE

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- 2022 04 – until now **Researcher**  
Nature Research Centre, Vilnius, Lithuania.
- 2022 12 – until now **Postdoctoral researcher**  
Vilnius university, Institute of Bioscience, Department of Biochemistry and Molecular biology, Vilnius, Lithuania
- 2014 06 – 2022 03 **Biologist**  
Nature Research Centre, Vilnius, Lithuania.

## RESEARCH INTERESTS

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Yeast and bacteria community (enrichment and identification of cultivable yeasts, molecular identification of yeast and bacteria species using PCR and RFLP, analysis of sequencing data), fruits microbiota (collection of fruits and berries samples, DNA isolation, amplification, and preparation for metagenomic analysis, bioinformatic analysis), yeast viral systems, killing and

resistance formation mechanisms, host-pathogen interaction, antimicrobial analysis. Proficiency with „EBI“, „NCBI“, „STRING“ online databases.

## PUBLICATIONS

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

1. **Vepštaitė-Monstavičė I.**, Lukša J., Servienė E. 2021. Interaction of host factors in response to yeast K2 toxin stress – attractiveness for plant protection. – *Žemdirbystė-Agriculture*, 108(4), 313-320.
2. Lukša J., **Vepštaitė-Monstavičė I.**, Apšegaitė V., Blažytė-Čereškienė L., Stanevičienė R., Strazdaitė-Žielienė Ž., Ravoitytė B., Aleknavičius D., Būda V., Mozūraitis R., Servienė E. 2020. Fungal microbiota of Sea Buckthorn berries at two ripening stages and volatile profiling of potential biocontrol yeasts. – *Microorganisms*, 8(3), 126-144.
3. Mozūraitis R., Aleknavičius D., **Vepštaitė-Monstavičė I.**, Stanevičienė R., Emami S.N., Apšegaitė V., Radžiūtė S., Blažytė-Čereškienė L., Servienė E., Būda V. 2020. *Hippophae rhamnoides* berry related *Pichia kudriavzevii* yeast volatiles modify behaviour of *Rhagoletis batava* flies. – *Journal of Advanced Research*, 21, 71-77.
4. **Vepštaitė-Monstavičė I.**, Lukša J., Stanevičienė R., Strazdaitė-Žielienė Ž., Yurchenko V., Serva S., Servienė E. 2018. Distribution of apple and blackcurrant microbiota in Lithuania and the Czech Republic. – *Microbiological Research*, 206, 1-8.
5. Lukša J., **Vepštaitė-Monstavičė I.**, Yurchenko V., Serva S., Servienė E. 2018. High content analysis of sea buckthorn, black chokeberry, red and white currants microbiota: a pilot study. – *Food Research International*, 111, 597-606.
6. Novickij V., Zinkevičienė A., Stanevičienė R., Gruškienė R., Servienė E., **Vepštaitė-Monstavičė I.**, Krivorotova T., Lastauskienė E., Sereikaitė J., Girkontaitė I., Novickij J. 2018. Inactivation of *Escherichia coli* using nanosecond electric fields and nisin nanoparticles: a kinetics study. – *Frontiers in Microbiology*, 9, 1-8.
7. **Vepštaitė-Monstavičė I.**, Lukša J., Konovalovas A., Ežerskytė D., Stanevičienė R., Strazdaitė-Žielienė Ž., Serva S., Servienė E. 2018. *Saccharomyces paradoxus* K66 killer system evidences expanded assortment of helper and satellite viruses. – *Viruses*, 10(10), 1-19.
8. Rudaitytė-Lukošienė E., Prakas P., Butkauskas D., Kutkienė L., **Vepštaitė-Monstavičė I.**, Servienė E. 2018. Morphological and molecular identification of *Sarcocystis* spp. from the sika deer (*Cervus nippon*), including two new species *Sarcocystis frondea* and *Sarcocystis nipponi*. – *Parasitology Research*, 117(5), 1305-1315.
9. Novickij V., Stanevičienė R., **Vepštaitė-Monstavičė I.**, Gruškienė R., Krivorotova T., Sereikaitė J., Novickij J., Servienė E. 2018. Overcoming antimicrobial resistance in bacteria using bioactive magnetic nanoparticles and pulsed electromagnetic fields. – *Frontiers in Microbiology*, 8, 1-8.
10. Gylienė O., Servienė E., **Vepštaitė I.**, Binkienė R., Baranauskas M., Lukša J. 2015. Correlation between the sorption of dissolved oxygen onto chitosan and its antimicrobial activity against *Escherichia coli*. – *Carbohydrate polymers*, 131, 218-223.
11. Lukša J., Podoliankaitė M., **Vepštaitė I.**, Strazdaitė-Žielienė Ž., Urbonavičius J., Servienė E. 2015. Yeast  $\beta$ -1,6-Glucan is a primary target for the *Saccharomyces cerevisiae* K2 toxin. – *Eukaryotic cell*, 14(4), 406-414.

**Reviewed scientific articles, published in Lithuania:**

1. Servienė E., Lukša J., **Vepškaitė-Monstavičė I.**, Urbonavičius J. 2016. A quick and reliable method for genome-wide host factor screening of *Saccharomyces cerevisiae* killer toxins. – *Biologija*, 62(4), 268-275.
2. Lukša J., **Vepškaitė I.**, Servienė E. 2015. Association between cell wall-related processes and functionally non-annotated factors important for K2 susceptibility. – *Biologija*, 61(2), 43-49.

**PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS**

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- 2021 – 2022     **Project participant.** Orders by economic entities “Analysis of ultraviolet light disinfection of chicken products infected with salmonella (Salmuva)“. Project leader – dr. Elena Servienė (Nature Research Center, Laboratory of Genetics).
- 2021             **Project participant.** Short-term research in health and education project “System for virus spread control and extreme situation management during COVID-19 epidemics“. Project leader – dr. S. Serva (Vilnius university, Institute of Bioscience, Department of Biochemistry and Molecular biology).
- 2018 and 2021   **Project participant.** Development of competences of scientists through world class level scientific research, project “The role of metabolites in three-trophic interactions between plant, microorganisms and phytophagous insects“. Project leader – dr. Raimondas Mozūraitis (Nature Research Center, Laboratory of Chemical and Behavioural Ecology).
- 2015 – 2018     **Project participant.** National scientific research program “Sustainability of agro-, forest and water ecosystems“ Project “Agroecosystems microbiota under climate change: structure and concordance mechanisms“. Project leader – dr. Elena Servienė (Nature Research Center, Laboratory of Genetics).
- 2013 – 2014     **Project participant.** 7th Framework Programme for Research, project FP7-SME-2012-315087- ChitoClean “Enhanced chitin-based biosorbents for drinking water purification“. Project leader – dr. Zdravka Lazarova (AIT Austrian Institute of Technology GmbH).

**INTERNSHIP AND TRAINING**

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- 2022 12 – 2024 11     Postdoctoral internship (Vilnius university, Institute of Bioscience, Department of Biochemistry and Molecular biology, Vilnius, Lithuania)
- 2017 03 27 – 04 06     EMBO practical course „Plant microbiota“ (Max Planck Institute for Plant Breeding Research, Cologne, Germany)
- 2016 08 30 – 09 04     Training on metagenomic analysis of microbiota (Life Science Research Centre, Ostrava, Czech Republic)
- 2016 07 17 – 19         Training on metagenomic analysis of microbiota (Ostrava, Czech Republic)

## PARTICIPATION IN SCIENTIFIC CONFERENCES

### *International scientific conferences:*

1. **Vepštaitė-Monstavičė, I.**, Stanevičienė, R., Lukša, J., Ravoitytė, B., Strazdaitė-Žielienė, Ž., Servienė, E. (2022) High content analysis of sea buckthorn and cherries-associated mycobiota". Lithuanians biochemical society 2022 mini-conference: "Biochemistry in the big data age", September 30, Lithuania. Book of abstracts, 35.
2. **Vepštaitė-Monstavičė, I.**, Valys, A., Strazdaitė-Žielienė, Ž., Serva, S., Servienė, E. (2022) Antimicrobial potency of essential oil. "Mikrobiologija 2022", April 28-29, Druskininkai, Lithuania. Book of abstracts, 70.
3. Valys, A., **Vepštaitė-Monstavičė, I.**, Strazdaitė-Žielienė, Ž., Serva, S., Servienė, E. (2022) Antimicrobial potency of essential oil. FEBS3+ conference of Latvian, Lithuanian and Estonian Biochemical societies, June 15-17, Tallinn, Estonia. Book of abstracts, 155-156.
4. Servienė E., Lukša J., **Vepštaitė-Monstavičė I.**, Apšegaitė V., Blažytė-Čereškienė L., Stanevičienė R., Strazdaitė-Žielienė Ž., Ravoitytė B., Aleknavičius D., Būda V., Mozūraitis R. (2020) Fungal microbiota of sea buckthorn berries at two ripening stages and volatile profiling of potential biocontrol yeasts. FEMS Online Conference on Microbiology, October 28-31. Book of abstracts, 381.
5. Ravoitytė, B., Stanevičienė, R., **Vepštaitė-Monstavičė, I.**, Sederevičiūtė, A., Lukša, J., Strazdaitė-Žielienė, Ž., Servienė, E. (2019) Effects of temperature and pH on *Saccharomyces paradoxus* killer yeasts. XXIX international conference on yeast genetics and molecular biology, August 18-22, Gothenborg, Sweden. Book of abstracts, 378.
6. Stanevičienė, R., Lukša, J., **Vepštaitė-Monstavičė, I.**, Strazdaitė-Žielienė, Ž., Servienė, E. (2019) Yeasts-commensals in the sea buckthorn ecosystem. 8<sup>th</sup> congress of European microbiologists FEMS, July 7-11, Glasgow, Scotland. Book of abstracts, 1446.
7. Lukša, J., **Vepštaitė-Monstavičė, I.**, Stanevičienė, R., Strazdaitė-Žielienė, Ž., Serva, S., Servienė, E. (2019) High content analysis of microbiota on medicinal properties possessing berries. 8<sup>th</sup> congress of European microbiologists FEMS, July 7-11, Glasgow, Scotland. Book of abstracts, 1445.
8. Servienė, E., Stanevičienė, R., **Vepštaitė-Monstavičė, I.**, Lukša, J., Strazdaitė-Žielienė, Ž., Apšegaitė, V., Butkienė, R., Aleknavičius, D., Blažytė-Čereškienė, L., Būda, V., Mozūraitis, R. (2019) Sea buckthorn berry-related yeasts and their volatiles. FEBS3+ conference of Latvian, Lithuanian and Estonian Biochemical societies, June 17-19, Riga, Livonia. Book of abstracts, 107.
9. Aleknavičius D., Apšegaitė V., **Vepštaitė-Monstavičė I.**, Stanevičienė R., Servienė E., Būda V. (2018) Fruit flies *Rhagoletis batava* perceive odours emitted by yeasts from berries of their host plant. 34<sup>th</sup> international annual meeting on society of chemical ecology, August 12-18, Budapest, Hungary. Book of abstracts, 45.
10. Servienė E., Novickij V., Stanevičienė R., **Vepštaitė-Monstavičė I.**, Lukša J., Gruškienė R., Krivorotova T., Sereikaitė J., Novickij J. (2018) High pulsed field activation of magnetic nisin-loaded nanoparticles for antimicrobial efficacy. 18<sup>th</sup> international European congress on biotechnology, July 1-4, Geneva, Switzerland. Book of abstracts, 32.
11. Kisieliūtė M., Stanevičienė R., Gruškienė R., **Vepštaitė-Monstavičė I.**, Servienė E., Sereikaitė J. (2018) Antimicrobial peptide from *Pediococcus acidilactici* JEM-1. XV<sup>th</sup> International Conference of Lithuanian Biochemical Society, June 26-29, Dubingiai, Lithuania. Book of abstracts, 25-26.
12. Novickij V., Stanevičienė R., **Vepštaitė-Monstavičė I.**, Babonaitė M., Gruškienė R., Krivorotova T., Sereikaitė J., Novickij J., Servienė E. (2018) Overcoming antimicrobial resistance in bacteria using bioactive magnetic nanoparticles, high pulsed electric and electromagnetic fields. XV<sup>th</sup> International Conference of Lithuanian Biochemical Society, June 26-29, Dubingiai, Lithuania. Book of abstracts, 45.

13. **Vepštaitė-Monstavičė I.**, Lukša J., Stanevičienė R., Strazdaitė-Žiėlienė Ž., Yurchenko V., Serva S., Servienė E. (2018) Metataxonomic analysis of berries-associated microorganisms. EMBO conference "Experimental approaches to evolution and ecology using yeast and other model systems", October 17-20, Heidelberg, Germany. Book of abstracts, 113.
14. **Vepštaitė-Monstavičė I.**, Lukša J., Stanevičienė R., Strazdaitė-Žiėlienė Ž., Yurchenko V., Serva S., Servienė E. (2018) Metataxonomic analysis of berries-associated microorganisms. XV<sup>th</sup> International Conference of Lithuanian Biochemical Society, June 26-29, Dubingiai, Lithuania. Book of abstracts, 70.
15. **Vepštaitė-Monstavičė I.**, Lukša J., Urbonavičius J., Servienė E. (2018) Interaction of yeast genetic factors in response to *Saccharomyces cerevisiae* K2 toxin stress. International conference „Microbial stress: to molecules and back“, April 23-25, Kinsale, Ireland. Book of abstracts, 78.
16. **Vepštaitė-Monstavičė I.**, Stanevičienė R., Lukša J., Strazdaitė-Žiėlienė Ž., Servienė E. (2017) Yeast communities on fruits and berries of Lithuania. 28<sup>th</sup> international conference on yeast genetics and molecular biology (ICYGMB), August 27 – September 1, Prague, Czech Republic. Book of abstracts, 307-308.
17. Servienė E., Lukša J., Ravoitytė B., Konovalovas A., Aitmanaitė L., **Vepštaitė-Monstavičė I.**, Yurchenko V., Serva S. (2017) The impact of *Saccharomyces cerevisiae* M2 virus on host gene expression. 28<sup>th</sup> international conference on yeast genetics and molecular biology (ICYGMB), August 27 – September 1, Prague, Czech Republic. Book of abstracts, 288-289.
18. Konovalovas A., Aitmanaitė L., **Vepštaitė-Monstavičė I.**, Stanevičienė R., Servienė E., Serva S. (2017) New double-stranded RNA viruses from *Saccharomyces sensu stricto*. 28<sup>th</sup> international conference on yeast genetics and molecular biology (ICYGMB), August 27 – September 1, Prague, Czech Republic. Book of abstracts, 309-310.
19. **Vepštaitė-Monstavičė I.**, Stanevičienė R., Lukša J., Strazdaitė-Žiėlienė Ž., Naumovas D., Žilakauskis A., Cimalova S., Servienė E. (2016) The impact of biogeography on diversity of yeast and killer viruses. EMBO conference "Experimental approaches to evolution and ecology using yeast and other model systems", October 19-23, Heidelberg, Germany. Book of abstracts, 124.
20. **Vepštaitė-Monstavičė I.**, Lukša J., Stanevičienė R., Urbonavičius J., Servienė E. (2016) *Saccharomyces cerevisiae* genome database non-annotated gene products are potential modulators of K2 toxin action. 7<sup>th</sup> EMBO meeting, September 11-13, Mannheim, Germany. Book of abstracts, 204.
21. **Vepštaitė-Monstavičė I.**, Lukša J., Servienė E. (2016) Characterization of SGD non-annotated genetic factors, important for K2 resistance formation. XIV<sup>th</sup> International Conference of Lithuanian Biochemical Society, June 28-30, Druskininkai, Lithuania Book of abstracts, 104.
22. Servienė E., Lukša J., **Vepštaitė-Monstavičė I.**, Stanevičienė R., Urbonavičius J., Serva S. (2016) Importance of external and cellular environment for the functioning of yeast killer toxins. EMBO conference "Experimental approaches to evolution and ecology using yeast and other model systems", October 19-23, Heidelberg, Germany. Book of abstracts, 113.
23. Lukša J., **Vepštaitė-Monstavičė I.**, Stanevičienė R., Strazdaitė-Žiėlienė Ž., Žilakauskis A., Konovalovas A., Serva S., Servienė E. (2016) Persistence of killer viruses in the natural environment. 7<sup>th</sup> EMBO conference, September 11-13, Mannheim, Germany. Book of abstracts, 182.
24. Konovalovas A., Žilakauskis A., **Vepštaitė-Monstavičė I.**, Servienė E., Serva S. (2016) Evolutionary relationship of ubiquitous *Saccharomyces cerevisiae* dsRNA viruses. EMBO conference "From functional genomics to systems biology", November 12-15, Heidelberg, Germany. Book of abstracts, 199.
25. Strazdaitė-Žiėlienė Ž., **Vepštaitė I.**, Birgiola L., Servienė E. (2015) *Saccharomyces cerevisiae* K2 toxin fusion with GFP. 9<sup>th</sup> international young scientist conference “The Vital Nature Sign”, May 14-17, Kaunas, Lithuania. Book of abstracts, 47.

26. Lukša J., Podoliankaitė M., **Vepškaitė I.**, Urbonavičius J., Servienė E. (2015) Investigation of K2 toxin binding to yeast cell wall components. 27<sup>th</sup> International Conference on Yeast Genetics and Molecular Biology (ICYGMB), September 6-12, Levico Terme, Italy. *Yeast*, 32, 238.
27. Servienė E., Lukša J., **Vepškaitė I.**, Stanevičienė R., Strazdaitė-Želienė Ž. (2015) Non-annotated genetic factors associated with cell wall-related processes, important in K2 susceptibility. 27<sup>th</sup> International Conference on Yeast Genetics and Molecular Biology (ICYGMB), September 6-12, Levico Terme, Italy. *Yeast*, 32, 241.
28. Servienė E., Lukša J., Podoliankaitė M., **Vepškaitė I.**, Lafontaine DLJ., Urbonavičius J. (2014) Modeling of *Saccharomyces cerevisiae* K2 toxin entry and response of the host cell. FEBS EMBO 2014 conference, August 30 – September 4, Paris, France. *FEBS J.*, 281(S1): 630.
29. Lukša J., Podoliankaitė M., **Vepškaitė I.**, Urbonavičius J., Servienė E. (2014) Role of the beta-glucans for the action of *Saccharomyces cerevisiae* K2 toxin. XIII<sup>rd</sup> International Conference of Lithuanian Biochemical Society, June 18-20, Birštonas, Lithuania. Book of abstracts, 25.
30. **Vepškaitė I.**, Lukša J., Gylienė O., Binkienė R., Servienė E. (2013) Susceptibility of *E. coli* towards chitosan modified by specific inorganic and organic biocides. 7<sup>th</sup> international young scientist conference “The Vital Nature Sign”, May 16-19, Kaunas, Lithuania. Book of abstracts, 65.

#### *National scientific conferences:*

1. **Vepškaitė-Monstavičė I.**, Lukša J., Stanevičienė R., Strazdaitė-Želienė Ž., Žilakauskis A., Naumov D., Yurchenko V., Serva S., Servienė E. (2017) Oral presentation: “Biogeografijos įtaka obuolių ir juodųjų serbentų mikrobiotai”. 10<sup>th</sup> youngest scientists conference „Bioateitis: gamtos ir gyvybės mokslų perspektyvos”, December 7, Vilnius, Lithuania.

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## **PARTICIPATION IN THE STUDY PROCESS**

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

Vilnius University: Bachelors in Biochemistry (1) and Molecular Biology (1).

Vilnius Gediminas Technical University: Bachelors in Bioengineering (3), Masters (1).

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## **OTHERS**

1. Organisation of educational practical study of molecular biology and gene engineering to students from Veiviržėnai J. Šaulys gymnasium (2022).
2. Participation in the International Microorganisms day (2018 and 2022).
3. Participation in the show „Aš užaugau Veiviržėnuose“ (2020).