

# Martynas Dėlkus

## CONTACT INFORMATION

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## EDUCATION

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- 2021 10 – Now **Branch of science, direction:** Natural sciences, Biology (N010) doctoral degree (Vytautas the Great University and Nature Research Center).  
**The topic of the work:** "Molecular study of uncultivable phytoplasmas and their effects on the microbiomes of infected berry bushes."  
**The purpose of the work:** To identify and clarify the influence of phytoplasmas that damage berry bushes on the microbiome of berry bushes using molecular biology methods  
**The work was carried out at:** Nature Research Center, Plant Pathology Laboratory.
- 2019 09 – 2021 06 Vilnius University, Environment and environmental protection / Master.  
**The topic of the work:** "Dynamics of phytoplasma infection identified in mountain pines (*Pinus mugo* TURRA) growing in the anthropogenic forest of the Curonian Spit National Park".  
**The aim of the work:** To determine and identify by molecular methods the phytoplasmal infection of mountain pines (*Pinus mugo* Turra) and its dynamics from the samples collected in the anthropogenic forest of the Curonian Spit National Park.  
**The work was carried out at:** Nature Research Center, Plant Pathology Laboratory.
- 2014 09 – 2019 06 Vilnius University, Molecular Biology / Bachelor.  
**The topic of the work:** "Detection and identification of phytoplasmas in garden bilberry (*Vaccinium x covilleianum*) and wrinkled blackberry (*Rubus plicatus*) samples".  
**The aim of the work:** to identify and classify phytoplasmas in garden fruit bushes by molecular methods, using 16S rDNA and an additional genetic marker.  
**The work was carried out at:** Nature Research Center, Plant Pathology Laboratory.

## WORK EXPERIENCE

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- 2021 10 – Now **Doctoral student**  
Institute of Botany, Plant Pathology Laboratory
- 2019 10 – 2021 05 **Intern**  
Institute of Botany, Plant Pathology Laboratory

2017 10 – 2019 05 **Intern**  
Institute of Botany, Plant Pathology Laboratory

### SCIENTIFIC INTERESTS

**Field of research:** epidemiology of infection and diseases of wild and cultivated plants infected with non-cultivable bacteria. Studies of endophytic bacterial microbiomes of diseased and healthy plant hosts. The diversity of beneficial and pathogenic bacteria and their phylogenetic origin are studied. Plant disease management recommendations. Isolation of DNA from various plants, application of various PCR methods (rtPCR, nPCR, MP PCR, microsatellite analysis, etc.), sequencing, DNA fingerprinting and metagenomic analysis; microorganism population structure studies; search for rational means of combating plant diseases.

### PUBLICATIONS

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

1. **Dėlkus M.**, Žižytė-Eidetienė M., Ivanauskas A., Valiūnas D. 2024. First Report of Lingonberry Stunted Yellows Disease of *Vaccinium vitis-idaea* associated with ‘*Candidatus Phytoplasma trifolii*’-Related Phytoplasma Strain in Lithuania. *Plant Disease*, 108(5): 1391. ISSN: 0191-2917. e-ISSN: 1943-7692 IF: 4.5, **Q1**. <https://doi.org/10.1094/PDIS-02-24-0284-PDN>
2. **Dėlkus M.**, Žižytė-Eidetienė M., Ivanauskas A., Valiūnas D. 2025. First Report of ‘*Candidatus Phytoplasma trifolii*’-Related Strain Associated with *Vaccinium Reddish Witches*’-Broom Disease of European Blueberry in Lithuania. *Plant Disease*, in press. ISSN:0191-2917 | e-ISSN: 1943-7692, **Q1**, IF:4.4 <https://doi.org/10.1094/PDIS-11-24-2431-PDN>

*Other reviewed scientific publications (books, books' chapters, collections of articles, articles, textbooks and etc.):*

1. **Dėlkus M.**, Valiūnas D., Žižyte-Eidetienė M., Ivanauskas A. Ways of spreading and control methods of phytoplasma infections in berry plants. How to avoid pesticides? *HERBOLOGY 2023: WEED ECOLOGY AND CONTROL*. Pp. 27-30. ISBN: 978-609-449-116-0  
[https://zua.vdu.lt/wp-content/uploads/2023/03/Herbologu-konferencijos-2023-03-21\\_1-1.pdf](https://zua.vdu.lt/wp-content/uploads/2023/03/Herbologu-konferencijos-2023-03-21_1-1.pdf)

### DALYVAVIMAS MOKSLINĖSE KONFERENCIJOSE

**International scientific conferences:**

1. **Dėlkus M.**, Mikalauskas A., Žižytė-Eidetienė M., Ivanauskas A., Valiūnas D. 2024. Detection of Lingonberry Stunted Yellows Disease associated with ‘*Candidatus Phytoplasma Trifolii*’ in the natural habitat of Lithuania. In International Conference of Life Sciences „The COINS 2024“, Vilnius University, April 15-18, Conference <https://thecoins.eu/posters/about>; Books of Abstracts Page 105 <https://thecoins.eu/about/past>, Biology and Ecology section, Stendinis pranešimas E26, pristatė Augustas Mikalauskas

2. **Dėlkus M.**, dr. Valiūnas D., dr. Žižytė-Eidetienė M. ‘*Candidatus* phytoplasma rubi’ detection in blackberries (*Rubus plicatus*) and raspberries (*Rubus idaeus*) in Lithuania. X International Conference „Bioresources and Viruses“. September 11-13, 2023 Kyiv. Ukraine. Poster presentation by Martynas Dėlkus

#### National scientific conferences:

1. **Dėlkus M.** 2021. Dynamics of phytoplasma infection identified in mountain pines (*Pinus mugo* TURRA) growing in the anthropogenic forest of the Curonian Spit National Park. - Research of young students in protected areas of Lithuania 2021", balantis, Vilnius, Lithuania  
[https://vstt.lrv.lt/uploads/vstt/documents/files/TEZI%C5%B2\\_RINKINYS\\_%E2%80%9EJAUN%C5%B2J%C5%B2\\_MOKSLININK%C5%B2\\_TYRIMAI\\_LIETUVOS\\_SAUGOMOSE%20TERITO\\_RIJOSE\\_2021%E2%80%9C1.pdf](https://vstt.lrv.lt/uploads/vstt/documents/files/TEZI%C5%B2_RINKINYS_%E2%80%9EJAUN%C5%B2J%C5%B2_MOKSLININK%C5%B2_TYRIMAI_LIETUVOS_SAUGOMOSE%20TERITO_RIJOSE_2021%E2%80%9C1.pdf)
2. **Dėlkus M.** 2022. Phytoplasmas and their influence on infected berry plants. Biofutures: Perspectives in the Natural and Life Sciences, 24 November. Vilnius, Lithuania  
[https://www.lma.lt/uploads/LMA%20leidyba/BIOATEITIS%20prane%C5%A1im%C5%B3%20tez%C4%97s\\_2022.pdf](https://www.lma.lt/uploads/LMA%20leidyba/BIOATEITIS%20prane%C5%A1im%C5%B3%20tez%C4%97s_2022.pdf)
3. **Dėlkus M.**, Valiūnas D., Žižyte-Eidetienė M., Ivanauskas A. 2023. HERBOLOGY 2023: WEED ECOLOGY AND CONTROL Oral presentation : Ways of spreading and control methods of phytoplasma infections in berry plants. How to avoid pesticides?  
[https://zua.vdu.lt/wp-content/uploads/2023/03/Herbologu-konferencijos-2023-03-21\\_1-1.pdf](https://zua.vdu.lt/wp-content/uploads/2023/03/Herbologu-konferencijos-2023-03-21_1-1.pdf)
4. **Dėlkus M.**, Žižytė-Eidetienė M., Ivanauskas A., Valiūnas D. 2024. Fitoplazmų įvairovė ir paplitimas Lietuvos uoginiuose augaluose. 17-oji Lietuvos jaunųjų mokslininkų konferencija „Bioateitis: gamtos ir gyvybės mokslų perspektyvos“, <https://gamtostyrimai.lt/wp-content/uploads/2024/11/2024-11-21-konferencijos-BIOATEITIS-pranesimu-tezes.pdf>

#### **DALYVAVIMAS TARPTAUTINIUISE IR NACIONALINIUISE MOKSLO PROJEKTUOSE**

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| 2021-2025 m. | <b>Researcher</b><br>COST Action CA20113, “A sound proteome for a sound body: targeting proteolysis for proteome remodeling (ProteoCure).”   |
| 2022-2026 m. | <b>Deputy Representative of Lithuania</b><br>COST Action CA21134, “Towards zero pesticide agriculture: European network for sustainability (TOP-AGRI-Network).”  |
| 2024-2028 m. | <b>Researcher</b><br>COST Action CA23107, “Evidence synthesis network in the agricultural and food sector.” Nominated from July 2024, coordinated by the Research Council of Lithuania.  |
| 2024-2025 m. | <b>Principal Investigator</b><br>European Health and Digital Executive Agency (HaDEA) project: “Review of biology and ecology of microorganism species used in plant protection” (2023-11-10 – 2025-05-09) <a href="https://ppmi.lt/news-insights/ppmi-conduct-review-biology-and-ecology-micro-organism-species-used-plant-protection">https://ppmi.lt/news-insights/ppmi-conduct-review-biology-and-ecology-micro-organism-species-used-plant-protection</a> |

**Technical Expert**

2024-2025 m. Organisation for Economic Co-operation and Development (OECD): “Services Relative to the Review and Preparation of a Consensus Document for *Bacillus amyloliquefaciens*.”

**PARTICIPATION IN THE STUDY PROCESS**

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**Supervision of undergraduate coursework**

Augustas Mikalauskas Bachelor thesis topic: "Detection and identification of 2022 – 2024 phytoplasmas in samples of *Vaccinium* and *Rubus* plant genera" (VU GMC, Microbiology and Biotechnology)

**Mokslo populiarinimo veikla ir kiti šalies ūkio, kultūros ir visuomenės raidai svarbūs darbai**

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1. Marija Žižytė-Eidetienė, **Martynas Dėlkus**, Algirdas Ivanauskas, Deividas Valiūnas. 2025. Threat to berry plants and natural ecosystems. *Mano ūkis*, Crop Production, 2025/01: p. 40-41 <https://manoukis.lt/mano-ukis-zurnalas/2025/01/gresme-uoginiams-augalams-ir-naturalioms-ekosistemoms/>
- Dėlkus M.**, Valiūnas D., Žižytė-Eidetienė M., Ivanauskas A. Pathways and control methods of phytoplasma infections in berry plants. How to avoid pesticides? // *Herbology 2023: Weed Ecology and Control: Program and Abstracts*. Vytautas Magnus University Agriculture Academy, 2023. Kaunas: VDU, 2023. ISBN 9786094491160. p. 27-30.
2. Žižytė-Eidetienė M., Mikalauskas A., **Dėlkus M.**, Ivanauskas A., Valiūnas D. Blueberry diseases: phytoplasmas. What is it? // *Ūkininko patarėjas*. 2023. Kaunas. DOI: 10.13140/RG.2.2.21437.06887 <https://ukininkopatarejas.lt/naujienos/melyniu-ligos-fitoplazmos-kas-tai/>
3. **Dėlkus M.** Why phytoplasmas are a threat to plants. LRT Radio show “Naturalist’s Commentary”.,,Gamtininko komentaras“ <https://www.lrt.lt/radioteka/irasas/2000387061/siekis-mazinti-biurokratija-itikina-ne-visus-ukininkus>