

**Daugavpils University
Institute of Life Sciences and Technology**

**11th INTERNATIONAL CONFERENCE ON
BIODIVERSITY RESEARCH
Daugavpils, 20 – 21 October, 2022**



PROGRAMME

**Daugavpils
2022**

Daugavpils University
Institute of Life Sciences and Technology

11th INTERNATIONAL CONFERENCE ON BIODIVERSITY RESEARCH

Daugavpils, 20 – 21 October 2022

INTERNATIONAL SCIENTIFIC COMMITTEE:

Dr., Prof. Arvīds Barševskis, Chairman of the Conference, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils, Latvia

Dr., Prof. Inese Kokina, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils, Latvia

Dr. Assoc. Prof. Anlyn Anzano Cabras, University of Mindanao, Davao, Philippines

Dr. Prof. Linards Sisenis, Forest Faculty, Latvia University of Life Sciences and Technologies, Latvia

Dr., Prof. Ingrida Šauliene, Šiauliai Academy, Vilnius University, Šiauliai, Lithuania

Dr. Polina Degtjarenko, University of Tartu, Estonia

Dr. Dmitry Telnov, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils, Latvia

Dr. Evita Strode, Latvian Institute of Aquatic Ecology, Daugavpils University Agency, Riga, Latvia

Dr. Muza Kirjušina, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils, Latvia

This conference is supported by:



The Project "Threatened species in Latvia: improved knowledge, capacity, data and awareness" LIFE19 GIE/LV/000857 LIFE FOR SPECIES is implemented with the financial support of the LIFE Programme of the European Union and Latvian State Regional Development Agency.

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PROGRAMME

20 October, 2022

10:00 – 12:00 REGISTRATION (Daugavpils University, Parades Str. 1a, hall)

12:00 – 12:10 OPENING (Daugavpils University, Parādes Str. 1a, Room 130)

12:10 – 15:10 PLENARY SESSION /*Chairman: Dmitry Telnov*/
(Daugavpils University, Parades Str. 1a, Room 130)

<https://du-lv.zoom.us/j/89680881973?pwd=TXEwZGhBdHBnL29xS3J6ZEc0Y0c2dz09>

Meeting ID: 896 8088 1973

Passcode: 303163

12:10 – 12:50 Infrastructure Tsunami and the Future of Nature

William F. Laurance / Director of the Centre for Tropical Environmental and Sustainability Science (TESS); Director of ALERT (ALERT-conservation.org);
College of Science and Engineering, James Cook University, Australia

12:50 – 13:30 Major challenges in the implementation of the EU Biodiversity Strategy 2030

Rolands Ratfelders / NGO “Green Liberty”, Latvia

13:30 – 14:00 COFFEE BREAK (Daugavpils University, Parades Str. 1a, hall)

14:00 – 14:40 Where do they live? Discerning the unknown distributions of boreal bryophytes in Canada

Nicole Fenton / Associate Professor and Director of the Forest Research Institut, Université du Québec en Abitibi-Témiscamingue, Canada

14:40 – 15:20 Freshwater biogeography and biodiversity of Sulawesi, Indonesia

Thomas von Rintelen / Museum für Naturkunde – Leibniz - Institut für Evolutions - und Biodiversitätsforschung, Germany

18:00 – 22:00 WELCOME RECEPTION (Daugavpils University, Parades Str. 1a, hall)

21 October, 2022

CONFERENCE SECTION A / Room 115 (Parades Str. 1) / Chairwoman: Anna Mežaka/

<https://du-lv.zoom.us/j/84802094889?pwd=NWdtUHNUb2d3bHhNa3NCUIZ4RIJIZz09>

Meeting ID: 848 0209 4889

Passcode: 553586

09:00 – 09:20 Identifying key parameters for assessment of semi-natural grassland habitat conservation degree

Solvita Rūsiņa, Marta Ancāne / University of Latvia, Faculty of Geography and Earth Sciences
Didzis Elferts / University of Latvia, Faculty of Biology
Baiba Galniece / Nature Conservation Agency of Latvia

09:20 – 09:40 @ Biodiversity of microalgae with emphasis on practical importance - A review

Alireza Hodhodi, Alireza Rabiepour / Department of Fishery, University of Guilan, Iran

09:40 – 10:00 The changes of species composition and abundance of ground cover vegetation during the first five years after the clearcut in Hylocomiosa forest site type

Aigars Indriksons, Anita Ieva Ratniece, Inga Straupe / Latvia University of Life Sciences and Technologies, Latvia

10:00 – 10:20 Peatland diversity conservation experience in Latvia

Māra Pakalne / University of Latvia, Botanical Garden

10:20 – 10.40 Ready! Set! Lichen! – citizen science for lichen survey on forest land in Estonia

Polina Degtjarenko / Department of Botany, University of Tartu, Estonia; Department of Biosystematics, University of Daugavpils, Latvia; Estonian Fund for Nature, Estonia
Piret Lõhmus / Department of Botany, University of Tartu, Estonian Fund for Nature, Estonia
Ovidiu Copot, Raul Rosenthal, Asko Lõhmus / Department of Zoology, University of Tartu, Estonia
Silvia Lotman / Estonian Fund for Nature, Estonia

10:40 – 11.00 @ Use of aerobiological data for vegetation studies

Olga Sozinova, Nikola Djubina, Paula Eliza Titane / Faculty of Geography and Earth Science, University of Latvia

CONFERENCE SECTION B / Room 130 (Parades Str. 1a) / Chairwoman: Gunita Deksnē/

<https://du-lv.zoom.us/j/87003401149?pwd=NINwSEtYdmlWTU1NcnBzT2FOdVU4QT09>

Meeting ID: 870 0340 1149

Passcode: 725245

09:00 – 09:20 Short term response of saproxylic beetles and aculeate Hymenoptera to forest disturbance and two different levels of post-disturbance logging – canopy openness is more important than dead wood

Michal Perlík / Faculty of Science, University of South Bohemia in České Budějovice, Institute of Entomology, Biology Centre of Czech Academy of Sciences

- 09:20 – 09:40 Pollarding: an overlooked tool in the conservation of deadwood dependent fauna
Pavel Šebek / Biology Centre of Czech Academy of Sciences, České Budejovice
- 09:40 – 10:00 Long term changes in small mammal diversity in Lithuania
Linās Balčiauskas, Laima Balčiauskienė / Laboratory of Mammalian Ecology, Nature Research Centre, Vilnius
- 10:00 – 10:20 Environmental filter and biotic interaction drive Geometridae (Lepidoptera) phylogenetic structure and their assemblages on Mt. Wilhelm elevational gradient, New Guinea.
Sentiko Ibalim, Vojtech Novotny, Pagi Toko / Biology Centre, Czech Academy of Sciences, Institute of Entomology. Faculty of Science, University of South Bohemia, Ceske Budejovice, Czech Republic
Bonny Koane / ew Guinea Binatang Research Center, Madang, Papua New Guinea
Milan Janda / Laboratory of Molecular Ecology and Biodiversity, Escuela Nacional de Estudios Superiores Unidad, Mexico
Simon Segar / Department of Crop and Environment Sciences, Jean Jackson Entomology Building, Harper Adams University
- 10:20 – 10.40 The first report about analysis of European eel (*Anguilla anguilla*) mitochondrial DNA diversity in part of Baltic Lakeland.
Jelena Oreha, Aleksandra Morozova, Alberts Garkajs, Muza Kirjušina, Vladimir G. Kostousov, Natalja Škute, /Daugavpils University, Institute of Life Sciences and Technologies, Department of Ecology
- 10:40 – 11.00 Canopy openness vs. deadwood microhabitats: What is more important for saproxylic beetles in Palaearctic region?
Petr Kozel / Institute of Entomology, Biology Centre CAS, České Budějovice; Department of Zoology, Faculty of Science, University of South Bohemia, České Budějovice
Pavel Šebek, Lukáš Drag, Lukáš Čížek / Institute of Entomology, Biology Centre CAS, České Budějovice

CONFERENCE SECTION C / Room 209 (Parades Str. 1a) /Chairman: Dmitry Telnov/

<https://du-lv.zoom.us/j/84126116111?pwd=UDI1dE1sZGVaWEJsSFE4ZjFGSitPUT09>

Meeting ID: 841 2611 6111

Passcode: 853627

- 09:00 – 09:20 @ The possible functional importance of shell appendages in *Japonia saetigera* (Gastropoda: Cyclophoridae)
Edvin Telnov / King's College, London
Kristīna Greže / Latvian National Museum of Natural History
Uģis Kagainis / University of Latvia
Dmitry Telnov / Natural History Museum, London, Institute of Life Sciences and Technology, Daugavpils University, Daugavpils
- 09:20 – 09:40 @ A brief comparison of sub-species of Great Egret *Ardea alba*: A Review
Khashayar Mahdiany Bora / Department of Environmental Sciences, Faculty of Natural Resources, University of Guilan, Iran

- 09:40 – 10:00 LIFE FOR SPECIES project: First ever extinction risk assessment of Latvian invertebrates
Dmitry Telnov / Institute of Biology, University of Latvia; Institute of Life Sciences and Technology, Daugavpils University, Latvia; Natural History Museum, London, United Kingdom
- 10:00 – 10:20 @ Mapping species distribution of Kuhl's pipistrelle (*Pipistrellus kuhlii*) in eastern Iran
Azita Farashi / Environmental sciences department, Faculty of Natural Resources and Environment, Ferdowsi University of Mashhad, Iran
- 10:20 – 10.40 The Latvian Red List of dragonflies Odonata: preliminary results
Mārtiņš Kalniņš / Institute of Life Sciences and Technologies, Daugavpils University; JSC “Latvia’s State forests”, Latvia
 Zane Pīpkalēja / Institute of Life Sciences and Technologies, Daugavpils University, Latvia
- 10:40 – 11.00 Red List assessment of dormice in Latvia: four species, four different IUCN categories of threat
Valdis Pilāts / LIFE project LIFE FOR SPECIES, Nature Conservation Agency, Latvia

CONFERENCE SECTION D – In cooperation with LIFE project LatViaNature
 / Room 201 (Parades Str. 1) / Chairwoman: Agnese Priede/

<https://du-lv.zoom.us/j/82226654818?pwd=OG00Rm9LN2VUZ21nL29JMCt1QWdlZ09>

Meeting ID: 822 2665 4818

Passcode: 333286

- 09:00 – 09:20 @ Transformation of Natura 2000 92A0 habitat due to mass invasion of walnut (*Juglans regia* L.) in Ukraine
Ihor Kucherko, Andrew Zamoroka / Department of biology and ecology, Vasyl Stefanyk Precarpathian National University, Ukraine
- 09:20 – 09:40 @ Impacts of invasive alien plants on ecosystem services of Hathnikund lake in Yamunanagar Haryana India
Jitender Kumar / Kurukshetra University Kurukshetra, Haryana, India
- 09:40 – 10:00 Evaluation of risk assessments for 24 invasive species in Latvia. Main threats and challenges.
Jānis Ozols, Maksims Balalaikins, Jānis Birzaks, Aiva Bojāre, Andris Čeirāns, Karīna Dukule-Jakušenoka, Gunta Evarte-Bundere, Iveta Jakubāne, Jana Paidere, Uldis Valainis / Daugavpils University, Latvia
- 10:00 – 10:20 Investigation of lipids in seeds of invasive plant species
Liega Krasovska / University of Latvia
- 10:20 – 10.40 Status, triggers, and prospects of the invasion of Chinese sleeper (*Perccottus glenii*) in Latvia
Natalja Škute, Mihails Pupins, Andris Čeirāns, Muza Kirjusina, Arturs Skute / Institute of Life Sciences and Technologies, Daugavpils University, Latvia
 Oksana Nekrasova / Institute of Life Sciences and Technologies, Daugavpils University, Latvia; Schmalhausen Institute of Zoology, NAS of Ukraine, Ukraine

Volodymyr Tytar, Oleksii Marushchak / Schmalhausen Institute of Zoology, NAS of Ukraine, Ukraine

Yuriy Kvach / Institute of Marine Biology of the NAS of Ukraine, Ukraine

Veniamin Zamorov / Odessa I. I. Mechnikov National University, Ukraine

10:40 – 11:00 Contribution of LIFE-IP LatViaNature Project to the Development of Management System for Invasive Alien Species

Ieva Saleniece, Agnese Rudusāne / Nature Conservation Agency of Latvia, LIFE-IP LatViaNature Project, Latvia

Santa Rutkovska / Nature Conservation Agency of Latvia, LIFE-IP LatViaNature Project; Department of Environmental Science and Chemistry, Daugavpils University, Latvia

11:00 – 11:40 COFFEE BREAK AND POSTER PRESENTATIONS
(Daugavpils University, Parades Str. 1a, hall)

CONFERENCE SECTION A / Room 115 (Parades Str. 1) / Chairwoman: Anna Mežaka/

11:40 – 12:00 New records of *Najas flexilis*, *Najas tenuissima* and other *Najas* species in Latvia

Uvis Suško, Pēteris Evarts-Bunders / Daugavpils University, Institute of Life Sciences and Technology, Latvia

Maija Čakare, Jolanta Jēkabsons, Inga Vītola / Latvian Environment, Geology and Meteorology Centre, Latvia

Laura Grīnberga, Egita Zviedre / University of Latvia, Latvian National Museum of Natural History, Latvia

Vita Līcīte / Society “Latvian Lakes”

Irēna Skrinda / Nature Conservation Agency, Latvia

12:00 – 12:20 @ How rare are rare species? Examples of *Cardamine flexuosa* and *Veronica montana*

Liene Auniņa / Institute of Biology, University of Latvia

12:20 – 12:40 Rare epiphyte transplantation experiments in different aged deciduous forest stands

Inese Irbe, Anna Mežaka, Rolands Moisejevs, Dace Stepanova / Daugavpils University, Department of Biosystematics, Institute of Life Sciences and Technology, Latvia

12:40 – 13:00 Rare moss *Dicranum viride* metapopulation spatial patterns in deciduous forest landscape in Latvia

Anna Mežaka, Inese Irbe / Daugavpils University, Department of Biosystematics, Institute of Life Sciences and Technology, Latvia

13:00 – 13:20 Mowing of great fen-sedge *Cladium mariscus* does not result in the recovery of species-rich small-sedge fen communities

Agnese Priede / Nature Conservation Agency, Latvia

CONFERENCE SECTION B / Room 130 (Parades Str. 1a) / Chairwoman: Gunita Deksnē/

11:40 – 12:00 Modelling and Control of Marine Systems under Uncertainty

Dmitry Gromov / Department of Mathematics, University of Latvia

Thorsten Upmann / Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg; Institute for Chemistry and Biology of the Marine Environment, Carl von Ossietzky University

12:00 – 12:20 Modelling Owl and Woodpecker Habitat Suitability to Evaluate Forest Conservation in Latvia

Andris Avotins / Faculty of Biology, University of Latvia; Latvian Ornithological Society; Faculty of Geography and Earth Sciences, University of Latvia, Latvia
Madars Bergmanis / Latvian Ornithological Society, Latvia
Janis Priednieks, Ainars Aunins / Faculty of Biology, University of Latvia; Latvian Ornithological Society, Latvia

12:20 – 12:40 Evaluation of lidar data utility in search for large nests

Pēteris Daknis, Didzis Elferts, Andris Avotiņš / University of Latvia
Aigars Kalvāns / Latvia's State Forests (LVM)

12:40 – 13:00 The effect of the ecological traps on the passerine (Passeriformes Linnaeus, 1758) bird survival and reproduction

Ronalds Krams, Tatjana Krama / Daugavpils University, Institute of Life Sciences and Technologies, Department of Biotechnology, Latvia
Didzis Elferts, Guntis Brūmelis, Iluta Dauškane, Indriķis Krams / University of Latvia, Faculty of Biology, Latvia
Dina Cīrule, Janīna Daukste, Patrīcija Raibarte / Institute of Food Safety, Animal Health and Environment BIOR, Latvia
Linda Strode / National Botanic Garden of Latvia
Agnis Šmits / Latvian State Forest Research Institute "Silava", Latvia

13:00 – 13:20 Use of automated system to study the effect of serotonin concentration changes on the behaviour of fruit flies (*Drosophila melanogaster* Meigen, 1830)

Tatjana Grigorjeva / Daugavpils University, Faculty of Natural Sciences and Mathematics, Department of Environmental Sciences and Chemistry, Latvia
Tatjana Krama, Māris Munkevics, Sergejs Popovs, Ronalds Krams / Daugavpils University, Institute of Life Sciences and Technologies, Daugavpils, Latvia
Vita Viktorija Maļutina, Annija Kotova, Indriķis Krams / University of Latvia, Faculty of Biology, Latvia

CONFERENCE SECTION C / Room 209 (Parades Str. 1a) / Chairman: Dmitry Telnov/

11:40 – 12:00 @ Moving forward towards sustainable research and conservation of Philippine beetles: More questions than answers

Milton Norman Medina / Institute of Agriculture and Life Sciences, Davao Oriental State University, Philippines

12:00 – 12:20 Faunistic studies for biodiversity conservation in the Philippine Archipelago. An example of research on longhorned beetles (Cerambycidae)

Arvīds Barševskis / Coleopterological Research Center, Institute of Life Sciences and Technology, Daugavpils University, Latvia
Analyn Anzano Cabras / Coleoptera Research Center, Institute of Biodiversity and Environment, University of Mindanao, Philippines

Milton Norman Medina / Institute of Agriculture and Life Sciences, Davao Oriental State University, Philippines

12:20 – 12:40 @ Dazzling New Easter Egg Weevils from the Philippines: Trends and Threats

ANALYN Anzano Cabras / Coleoptera Research Center, Institute of Biodiversity and Environment, University of Mindanao, Philippines

12:40 – 13:00 @ Two New Species of the Genus *Metapocyrtus* Heller 1912, Subgenus *Dolichocephalocyrtus* Schultzze 1925 (Coleoptera, Curculionidae, Entiminae, Pachyrhynchini) from Northern Mindanao Philippines

Efrhain Loidge Pasamba Pajota / Coleoptera Research Center, Institute of Biodiversity and Environment, University of Mindanao, Philippines

13:00 – 13:20 @ To the knowledge of *Erythrus philipinus* Vives, 2021, *Xystrocera danilevskii* Vives, 2013 and *Xystrocera festiva* Thomson, 1860 (Coleoptera: Cerambycidae) with new distribution data in the Philippines

Chrestine B Torrejos / Coleoptera Research Center, Institute of Biodiversity and Environment, University of Mindanao, Philippines

Arvīds Barševskis / Coleopterological Research Center, Institute of Life Sciences and Technology, Daugavpils University, Latvia

CONFERENCE SECTION E – In cooperation with UNESCO Chair on Teacher Education and Continuing Education / Room 201 (Parades Str. 1) / Chairwoman: Ilga Salīte, Ilona Fjodorova/

<https://du-lv.zoom.us/j/87486463598?pwd=UmNLcjFBK2Nlbnp2V3NkdWhiUk5OZz09>

Meeting ID: 874 8646 3598

Passcode: 476145

11:40 – 12:00 @ The problem of invasive alien species from an educational point of view.

Magdalena Valverde Pérez, Isabel Baños González, Patricia Esteve Guirao, Ana Ruíz Navarro / Didáctica de las Ciencias Experimentales. Facultad de Educación. Universidad de Murcia, Spain

12:00 – 12:20 @ Modal Verbs in Discursive Constructions of Environmental Issues by Greta Thunberg

Oleksandr Kapranov / NLA University College, campus Oslo, Norway

12:20 – 12:40 @ Training primary and kindergarten teachers with pedagogical skills to promote ecocentric education

Maria Eduarda Ferreira, António Costa / Polytechnic of Guarda, Portugal.

Rui Pitarma / Polytechnic of Guarda; CISE – Electro-mechatronic Systems Research Centre, Universidade da Beira Interior, Portugal

12:40 – 13:00 Teacher's Professional Competence and the Attractiveness of Workplace Environment in the Context of Sustainable Development

Mārīte Kravale-Pauliņa, Ilona Fjodorova, Eridiana Oļehnoviča / Center of Sustainable Education, Institute of Humanities and Social Sciences, Daugavpils University, Latvia

13:00 – 13:20 A way to organize botanical field practices for university students in conditions of pandemics or/and wars

Mykyta Peregrym / Luhansk Taras Shevchenko National University, Ukraine; Matej Bel University in Banska Bystrica, Slovakia
Ingrid Turisová / Matej Bel University in Banska Bystrica, Slovakia
Nataliia Matsai, Yuliia Havryliuk / Luhansk Taras Shevchenko National University, Ukraine
Alexander Tashev / University of Forestry, Bulgaria
Erika Péntzesné Kónya / Eszterházy Károly Catholic University, Hungary

13:20 – 14:20 LUNCH (Daugavpils University, Parades Str. 1a, hall)

CONFERENCE SECTION A / Room 115 (Parades Str. 1) / Chairwoman: Anna Mežaka/

14:20 – 14:40 Characteristics and spatial patterns of EU habitat 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils in Latvia

Anete Pošiva-Bunkovska / LTD "Estonian, Latvian & Lithuanian Environment"

14:40 – 15:00 Bryophyte species diversity along black alder swamp forest chronosequence

Evita Oļehnoviča, Anna Pastare-Skutele, Anna Mežaka, Ligita Liepiņa / Institute of Life Sciences and Technology, Daugavpils University, Latvia

15:00 – 15:20 Factors influencing ground vegetation in forest stands fertilized with wood ash and ammonium nitrate

Guna Petaja / Latvian State Forest Research Institute "Silava", Latvia

15:20 – 15:40 *Rosa tomentosa* and *R. sherardii* – new knowledge of distribution and occurrence in Latvia

Maija Medne, Pēteris Evarts - Bunders, Gunta Evarte – Bundere / Daugavpils University, Institute of Life Sciences and Technologies, Latvia.

Aiva Bojāre / Daugavpils University, Institute of Life Sciences and Technologies; National Botanical Garden, Dendroflora department, Latvia

15:40 – 16:00 Using lichen functional traits as indicators of natural forest biotopes in Fennoscandian hemiboreal natural old broad-leaved deciduous forests (EU Habitats Directive habitat code 9020).

Aleksandra Kruglikova, Anna Mežaka, Rolands Moisejevs, Evita Oļehnoviča, Anna Pastare – Skutele, Māris Nitcis / Daugavpils University, Department of Biosystematics, Institute of Life Sciences and Technology

CONFERENCE SECTION B / Room 130 (Parades Str. 1a) / Chairwoman: Gunita Dekšne/

14:20 – 14:40 Diet, growth and body condition of Baltic cod (*Gadus morhua*) in response to ecosystem changes in the Eastern Baltic Sea

Ēriks Krūze, Tatjana Baranova, Ivo Šics, Ivars Putnis, Loreta Rozenfelde, Martins Plikšs, Gunita Dekšne, Didzis Ustups / Institute of Food safety, Animal Health and Environment "BIOR", Latvia

14:40 – 15:00 High stumps as nesting sites for bees and wasps in boreal forests

Juho Paukkunen, Suvi Sutinen, Heidi Björklund / Finnish Museum of Natural History LUOMUS, University of Helsinki, Finland

Jenna Purhonen / University of Jyväskylä, Finland

15:00 – 15:20 Baltic cod (*Gadus morhua*) condition and health status in the changing ecosystem of Eastern Baltic: CODHEALTH

Gunita Deksnē, Ēriks Krūze, Maija Selezņova, Tatjana Baranova, Ivo Šics, Loreta Rozenfelde, Darja Hudjakova, Didzis Ustups / Institute of Food safety, Animal Health and Environment "BIOR"
Ivars Putnis / Institute of Food Safety, Animal Health and Environment "BIOR"; Faculty of Biology, University of Latvia

15:20 – 15:40 @ Aphids of the genus *Dysaphis* (Hemiptera: Aphididae) in Vilnius city and its suburbs (Lithuania)

Barbora Ieva Masoit, Jekaterina Havelka / Institute of Biosciences, Life Sciences Centre, Vilnius University, Lithuania

CONFERENCE SECTION C / Room 209 (Parades Str. 1a) / Chairman: Dmitry Telnov/

14:20 – 14:40 Body elemental composition variability and reproductive success of buff-tailed bumblebees (*Bombus terrestris* Linnaeus, 1758) in agricultural landscapes

Maris Munkevics, Ronalds Krams, Sergejs Popovs, Tatjana Krama / Daugavpils University, Institute of Life Sciences and Technologies, Latvia
Didzis Elferts, Indriķis Krams / University of Latvia, Faculty of Biology, Latvia
Linda Dobkeviča / University of Latvia, Faculty of Geography and Earth Sciences, Latvia
Patrīcija Raibarte / Institute of Food Safety, Animal Health and Environment BIOR, Latvia

14:40 – 15:00 @ Plant tropisms as adaptive responses to the changing environment: complex view on molecular mechanics of signal transduction.

Alina Oleksandrivna Kulbachna, Natalja Anatolievna Škute / Laboratory of Molecular Biology and Genetics, Department of Ecology, Institute of Life Sciences and Technologies, Daugavpils University, Latvia

15:00 – 15:20 @ Intestinal microbiome composition diversity of the buff-tailed bumblebee (*Bombus terrestris* Linnaeus, 1758) in present and former agricultural lands

Sergejs Popovs, Tatjana Krama, Ronalds Krams, Maris Munkevics / Daugavpils University, Institute of Life Sciences and Technologies, Latvia
Dita Gudra, Kaspars Megnis, Davids Fridmanis / Latvian Biomedical Research and Study Centre, Latvia
Indriķis Krams / University of Latvia, Faculty of Biology, Latvia

15:20 – 15:40 @ Threat of predation alters *Drosophila melanogaster* movement patterns

Sergejs Popovs, Maris Munkevics, Tatjana Krama, Ronalds Krams / Daugavpils University, Institute of Life Sciences and Technologies, Latvia
Giedrius Trakimas / Institute of Biosciences, Vilnius University, Lithuania
Tatjana Grigorjeva / Daugavpils University, Faculty of Natural Sciences and Mathematics, Department of Environmental Science and Chemistry, Latvia
Indriķis Krams / University of Latvia, Faculty of Biology, Latvia

15:40 – 16:00 @ The value of monitoring information for water quality management

Amelie Luhede, Reza Bahmanbijari / Bielefeld University, Faculty of Business Administration and Economics; Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg (HIFMB), Germany

Houda Yaqine, Michael Römer / Bielefeld University, Faculty of Business Administration and Economics

Thorsten Upmann / Carl von Ossietzky University Oldenburg, Institute for Chemistry and Biology of Marine environments (ICBM); Helmholtz Institute for Functional Marine Biodiversity at the University of Oldenburg (HIFMB), German

CONFERENCE SECTION E – In cooperation with UNESCO Chair on Teacher Education and Continuing Education / Room 201 (Parades Str. 1) /Chairwoman: Ilga Salīte, Ilona Fjodorova/

14:20 – 14:40 @ How do future Primary school teachers face the problem of biodiversity loss related to food consumption?

Isabel Banos-González, Patricia Esteve-Guirao, Magdalena Valverde-Pérez / Departamento de Didáctica de las Ciencias Experimentales, University of Murcia (Spain)

14:40 – 15:00 @ Teachers' Perspectives on Biodiversity Education

Mehdi Sarkhosh, Katayoon Naeb Pashaei / Urmia University, Iran

15:00 – 15:20 @ An Ecocriticism Course and Its Development of English Pre-service Teachers' Pedagogical Content Knowledge of Sustainability (PCKS)

Jepri Ali Saiful / College of Social Sciences, National Sun Yat-sen University, Taiwan
Ari Setyorini / Department of English Education, Muhammadiyah University of Surabaya, Indonesia

15:20 – 15:40 Sustainable way of life and education as the most important factors influencing climate changes

Eugeniusz Switala / independent researcher, Poland

15:40 - 16:00 **Open discussion**

16:00 – 16:50 COFFEE BREAK AND POSTER PRESENTATIONS
(Daugavpils University, Parades Str. 1a, hall)

16:50 – 17:00 CLOSING REMARKS AND THE END OF THE CONFERENCE
(Daugavpils University, Parades Str. 1a, Room 130)