



**Latvia University
of Life Sciences
and Technologies**

20th International Scientific Conference
STUDENTS ON THEIR WAY TO SCIENCE
(undergraduate, graduate, post-graduate students)
Collection of Programmes
April 25th, 2025

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PLENARY SESSION

10:00 Opening of the Conference	Moderator: Joseph Horgan
Opening address by Vice-Rector Gatis Vitols, Professor, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
Address by Mārtiņš Šabovics, Chairperson of the Conference “Students on Their Way to Science” Committee, Head of the International Cooperation Centre, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
10.10 – 12.15 Plenary Session	
TECHNOLOGICAL CHALLENGES IN AGRICULTURAL ROBOTICS/ Vitālijs Osadčuks, Professor, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
IT FOOD: MORE THAN FOOD – INNOVATION WITH IMPACT/ Ilze Laukaleja-Broka, Latvia Hub Manager, EUROPEAN INSTITUTE FOR INNOVATION AND TECHNOLOGY	
WOMEN ENTREPRENEURS' ROLE IN TOURISM CO-CREATION AND POLICY: EXAMINING THE CASE OF CYPRUS/ Zanete Garanti, Associate Professor, CITY UNITY COLLEGE NICOSIA (CYPRUS)	
CHARACTERISTICS AND DISTRIBUTION OF IMPATIENS GLANDULIFERA ROYLE IN LATVIA, Alta Egliņa, Inga Straupe, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
A UNIQUE CULTURE OF TOKUSHIMA: HISTORY OF AWA PUPPET SHOW (NINGYOU JOURURI) / Hiroshi Sakata, Associate Professor, UNIVERSITY OF TOKUSHIMA, JAPAN	
ZINC CONCENTRATION IN SNOW WATER AND POTENTIAL HAZARDS IN THE CITY OF JELGAVA / Viktorija Petrova, Inga Grīnfelde, Jovita Pilecka–Uļčugačeva, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
ELEVATED CO2 EFFECTS ON REDMIZUNA MICROGREENS BIOMASS AND ANTHOCYANIN CONTENT / Ravindu Upetha Balasuriya, Anta Sparinska, LATVIA UNIVERSITY OF LIFE SCIENCES AND TECHNOLOGIES	
TIMELESS FOUNDATIONS: VITRUVIAN PRINCIPLES IN ARCHITECTURE / Lukrecija Jankauskaitė, Dainora Jankauskienė, KLAIPEDA STATE UNIVERSITY OF APPLIED SCIENCES, LITHUANIA	

Information Technologies

(Presentation – 10 min, questions – 5 min)
<i>Moderator: Eldars Filimonovs</i>
CHATGPT: THE PROGRESS OF ARTIFICIAL INTELLIGENCE IN THE FIELD OF MATHEMATICS/ Eldars Filimonovs, Svetlana Atslega
DEVELOPMENT OF A SYSTEM PROTOTYPE FOR PRODUCT TRACEABILITY/ Arvids Vilcaks, Aleksejs Zacepins
QUANTUM NEURAL NETWORKS (QNNs) AND VARIATIONAL CIRCUITS/ Sailesh Babu, Aleksejs Zacepins
ASSESSING MOTOR IMAGERY TASK PERFORMANCE OF THE NEUROSITY CROWN IN THE PRESENCE OF INTERFERENCE/ Kristians Jankovskis, Tatjana Rubina
AI-POWERED OBJECT DETECTION FOR IDENTIFYING WASP THREATS IN BEEHIVE: TOWARDS A REAL TIME SURVEILLANCE SYSTEM/ Kirishanth Manivannan, Aleksejs Zacepins
CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM PROTOTYPING FOR CLEANING BUSINESS PROCESS AUTOMATION/ Arturs Davidenko, Tatjana Rubina

Social Sciences

<i>Moderator: Ksenija Furmanova</i>	
EU SCIENCE DIPLOMACY REINVENTS AN ACCLAIMED TRADITION / Zane Šime, Carine Germond	
ROLE OF CROWDFUNDING IN FINANCING STARTUPS / Elīna Vickopa, Gunita Mazūre	
FLEXIBILITY OF CALL CENTER EMPLOYEES IN SOLVING NON-STANDARD SITUATIONS / Niks Murans, Ginta Kronberga	
THE COMPETITIVENESS-SUSTAINABILITY PARADOX: A THEORETICAL REVIEW / Marta Lagzdina, Madara Dobeļe	
STEP BY STEP: BUILDING POSITIVE ATTITUDES TOWARD CHEMISTRY WITH IBL / Vanda Peto, Magdolna Chrappan	
SOCIAL NETWORK AS A RESOURCE IN FAMILIES OF CHILDREN WITH DISABILITIES / Daniels Mednis, Ginta Kronberga	
CHANGES IN APPROACHES TO INFORMAL WORKPLACE RELATIONSHIPS / Ekaterina Borodich, Ginta Kronberga	
WORK EXPERIENCE OF ILLEGALLY EMPLOYED WORKERS IN CONSTRUCTION / Atis Laksis, Anda Grīnfeldē	
LATVIA'S OPPORTUNITIES TO BECOME A HOME COUNTRY FOR EXPORTING BUSINESS CONSULTING SERVICES / Ivi-Anna Buce, Inguna Leibus	
THE CHALLENGES OF ENVIRONMENTALLY RESPONSIBLE AND SUSTAINABLE BUSINESS / Sandra Valaine, Andra Zvirbule	
HOUSING AFFORDABILITY IN THE CONTEXT OF CLIMATE NEUTRALITY / Niks Balinskis, Modrīte Peļe	

Land Management and Geodesy; Geoinformatics and Remote Sensing

<i>Moderator: Vita Celmiņa</i>
ANALYSIS OF CRITERIA, CLASSIFICATION AND ASSESSMENT OF DEGRADED TERRITORIES IN LATVIA/ Laura Reitāle, Vivita Puķīte
THE PROBLEM OF BUILDINGS WITHOUT OWNERSHIP ON MUNICIPAL LAND / Maija Ļaksa, Anda Jankava
USING SURVEYING EQUIPMENT TO OBTAIN A POINT CLOUD/ Andis Grīnbergs, Jolanta Luksa
IMPACT OF THE PLACEMENT AND NUMBER OF GROUND ATTACHMENT MARKERS ON THE POINT CLOUD OBTAINED FROM REMOTE SENSING/ Andis Grīnbergs, Jolanta Luksa
APPLICATION OF REMOTE SENSING METHODS FOR CADASTRAL OBJECT REGISTRATION IN THE BALTIC STATES/ Ērika Vaira Leopolve, Ivars Bergmanis, Liāna Ribkinska
THE IMPORTANCE OF VISUAL DESIGN IN GEOINFORMATICS PRODUCTS/ Salome Rēdmane, Armands Celms
APPLICATION OF THERMAL IMAGING DRONES IN THE CONSTRUCTION SECTOR/ Laurynas Griške, Dainora Jankauskienė
EVALUATING FOREST REGENERATION SUCCESS AFTER SELECTIVE LOGGING USING UNMANNED AERIAL VEHICLES AND REMOTE SENSING/ Katrīna Silva Mierkalne, Ivars Bergmanis
DETECTION OF DISEASES IN GRAPEVINES USING UAV HYPERSPECTRAL IMAGING/ Gihan Kularathne, Armands Celms
IMPLEMENTATION OF GIS TECHNIQUES IN LATE BLIGHT CONTROL IN POTATO/ Ajay Jayakumar, Aivars Ratkevičs
GEOSPATIAL MODELLING OF RISK SITUATIONS IN WASTEWATER TREATMENT PLANTS/ Uldis Egle, Aivars Ratkevičs, Armands Celms
URBAN MICROCLIMATE MODELING GIS FOR CLIMATE ADAPTION STRATEGIES/ Evija Rudzīte, Armands Celms
GEOMORPHIC ASPECTS OF FLOODING IN VALGUNDE, LATVIA (2023): A REMOTE SENSING AND GIS-BASED STUDY/ Alwinmon Karathrakkaran Wilson, Ivars Bergmanis

Civil Engineering

<i>Moderator: Sandra Gusta</i>
THE EFFECTIVENESS INCREASE OF TIMBER-CONCRETE COMPOSITE SLAB / Elza Briuka, Dmitrijs Serdjuks; Jānis Šliseris
IMPLEMENTATION CHALLENGES OF CIRCULAR CONSTRUCTION PRINCIPLES IN DAUGAVPILS/ Samanta Jurevica, Sandra Gusta
THERMAL INSULATION MATERIALS OF ORGANIC ORIGIN: WOOD FIBER BOARDS, ECOWOOL, FOAMED POLYESTER FOAMS, POLYURETHANE FOAM/ Emilijus Bartulis, Edvinas Galdikas, Dainora Jaunkauskiene
CONSTRUCTION WASTE REDUCTION AND RECYCLING / Karolina Gudauskaitė, Dainora Jaunkauskiene
LITHUANIAN CONSTRUCTION SECTOR DIGITALIZATION AND THE CHALLENGES ENCOUNTERED / Lukas Butkus, Dainora Jaunkauskiene
CONSTRUCTION DURING AND AFTER THE PANDEMIC COVID-19 / Adrija Rimšaitė, Dainora Jaunkauskiene
COMPARISON OF CERAMIC BUILDING MATERIALS: PAST AND PRESENT / Eimantas Vorobjovas, Dainora Jankauskienė
ECO-FRIENDLY BUILDING MATERIALS / Matas Mažeika, Dainora Jankauskienė
THE IMPACT OF THERMAL INERTIA OF WOODEN BUILDINGS ON THE ENERGY PERFORMANCE OF THE BUILDING / Inga Kaufmane, Arturs Lešinskis
SAFETY AND HEALTH IN CONSTRUCTION INDUSTRIES / Rokas Vaičiulis, Dainora Jankauskienė
ORGANIZATIONAL STRUCTURE AND CHALLENGES IN CONSTRUCTION / Marcos Piqueras Padrino, Dainora. Jankauskienė

Environment and Water Management

Faculty of Forest and Environmental Sciences
(Online zoom session)

<i>Moderator: Linda Grinberga</i>
DEFINING SOLUTIONS FOR THE SUSTAINABLE USE OF ORGANIC SOILS UNDER AGRICULTURE IN THE VENTA RIVER BASIN AREA/ Annija Danenberga, Kristīne Valujeva
CHANGES IN MANGANESE CONCENTRATION IN SNOWWATER IN DIFFERENT AREAS OF JELGAVA CITY/ Toms Artūrs Teteris, Inga Grīnfeldē
NICKEL POLLUTION LEVELS AND SPATIAL DYNAMICS IN SNOW WATER IN JELGAVA/ Gusts Jānis Petrovičs, Inga Grīnfeldē
CADMIUM ACCUMULATION IN SNOW AND ITS DISTRIBUTION IN THE ENVIRONMENT OF JELGAVA CITY/ Ralfs Zabeļins, Inga Grīnfeldē
ARSENIC CONCENTRATION IN SNOW WATER AND ITS DISTRIBUTION IN THE CITY OF JELGAVA/ Ēriks Lukaševičs, Inga Grīnfeldē
CHROMIUM CONCENTRATION IN SNOWMELT AND ITS POTENTIAL ENVIRONMENTAL IMPACT IN JELGAVA/ Renārs Vasiļjevs, Inga Grīnfeldē
LEAD CONCENTRATION IN SNOWMELT AND ITS DISTRIBUTION WITHIN THE BORDERS OF JELGAVA CITY/ Karlīna Hiršfeldē, Inga Grīnfeldē
IMPACT OF CROP TYPE AND SOIL CHARACTERISTICS ON GREENHOUSE GAS EMISSIONS IN LATVIAN AGRICULTURAL SYSTEMS/ Kārlis Memgaudis, Jovita Pilecka-Ulcugaceva

Engineering

Faculty of Engineering and Information Technologies

<i>Moderator: Janis Kjakste</i>
DESIGN MODIFICATION AND PERFORMANCE ANALYSIS OF DRONE PROPELLER/ Akshat Indolia, Aigars Laizāns
DEVELOPMENT OF A METHODOLOGY FOR DETERMINING THE MARKET VALUE OF USED TRACTORS/ Jānis Seinass, Kaspars Vārtukapteinis
METAL CORROSION / Aukse Stropute, Kamile Narvilaite, Dainora Jankauskienė
A REVIEW OF SUPERCRITICAL CO ₂ ENERGY STORAGE SYSTEMS FOR GRID APPLICATIONS IN THE BALTIC REGION/ Rinalds Rinkulis, Aigars Laizāns
AI POWERED DRONE IN AGRICULTURE: REVIEW/ Kaspars Vitkovskis, Guntis Gailums
VENTILATION SYSTEM FOR ROOT VEGETABLE STORAGE/ Rolands Stepanovičs, Mārtiņš Ziemelis
FILTER COATING TOOL DESIGN/ Kristaps Beiris, Mārtiņš Ziemelis
APPLICATION OF INNOVATIVE TECHNOLOGIES IN UNDERFLOOR HEATING SYSTEMS / Aistis Stanevičius, Gytis Gutauskas, Sigita Alavočienė
APPLICATION POSSIBILITIES OF AIR-TO-AIR HEAT PUMP/ Aurimas Juonys, Dovydas Narusevičius, Sigita Alavočienė
CREATION OF A MOBILE HYDRAULIC STATION/ Viktors Ciganovics, Aivars Birkavs

Forestry and Wood Technologies

<i>Moderators: Gustavs Janaitis, Solveiga Luguza</i>
AMANITA MUSCARIA – ECOLOGY, CHEMISTRY AND MODERN USE / Alise Dvariške, Dārta Filipova, Viktorija Katla, Inga Straupe
INNOVATIVE APPLICATIONS OF WOOD-DERIVED FIBERS / Sandija Hartmane, Annija Augšpule, Solveiga Luguza, Mārtiņš Audžs
POTENTIAL OF QUERCUS SPP. FOR TIMBER PRODUCTION IN LATVIA / Gustavs Janaitis, Solveiga Luguza
HETEROBASIDION SPP. CAUSED ROOT ROT IN CONIFEROUS FORESTS OF NORTHERN EUROPE / Laura Ziemele-Smila, Marta Skavronska, Solveiga Luguza
EVALUATION OF THE STEM QUALITY OF FAGUS SYLVATICA L. AND ITS EFFECT ON ECONOMIC GAIN. / Renāte Marija Šmite, Kate Krista Kalniņa, Solveiga Luguza
GROWTH PROCESS OF YOUNG LOW DENSITY EUROPEAN ASPEN (POPULUS TREMULA L.) STANDS / Liene Sūniņa-Biedre, Mārtiņš Zeps, Solveiga Luguza
SOIL PROPERTIES IN GREY ALDER (ALNUS INCANA (L.) MOENH) STANDS IN ABANDONED AGRICULTURAL LANDS / Girts Vernavs, Aigars Indriksons, Ieva Eldberga
TECHNOLOGICAL ASPECTS OF WOOD / Dovilė Bielskytė, Goda Marčenkaitė, Dainora Jankauskienė
WOOD FLAWS: TYPES, CAUSES AND IMPACT ON WOOD QUALITY / Gabrielė Valiūtė, Dainora Jankauskienė

Veterinary Medicine

Faculty of Veterinary Medicine

<i>Moderators: undergraduate student Annija Ance Valdmane and assoc. prof., Dr.med.vet. Laima Liepa (Room B100)</i>
INVESTIGATION OF WILD BIRD ADMISSIONS TO WILDLIFE CARE CENTER IN LATVIA IN 2024/ Ance Bīrone, Linda Valkovska, Alīna Kļaviņa
MILK UREA RELEVANCE TO MILK QUALITY AND AMMONIA EMISSIONS IN DAIRY COWS/ Kristiāna Belova, Ilga Šematoviča
TEAR PRODUCTION AND FERNING IN MESOCEPHALIC AND BRACHYCEPHALIC DOG BREEDS/ Annija Ance Valdmane, Līga Kovaļčuka
ASSESSING INBREEDING LEVELS IN GENETICALLY TESTED HOLSTEIN COWS IN LATVIA: IMPLICATIONS FOR DAIRY FARMING AND GENETIC DIVERSITY/ Gustavs Dravants, Ilga Šematoviča
INFRARED THERMOGRAPHY AS A DIAGNOSTIC TOOL FOR THE ASSESSMENT OF SUBCLINICAL MASTITIS IN GOATS / Laura Goldberga, Vita Antāne, Ivars Lūsis
WILD RUMINANT'S ENDOPARASITOSIS IN SILDUS REGION/ Arta Vectīrele, Alīna Kļaviņa
EFFECT OF PROTEIN,ENERGY SUPPLY IN THE PERIPARTUM PERIOD ON COLOSTRUM QUALITY IN SHEEP/ Anna Santa Ozoliņa, Aija Mālniece
PERCEPTION OF VETERINARIANS AND ANIMAL OWNERS ON THE USE OF ARTIFICIAL INTELLIGENCE IN VETERINARY MEDICINE IN LATVIA/ Valeriia Lonska, Lelde Tītmane
POSSIBLE CHRONIC INFLAMMATORY CONDITION IN OVERWEIGHT DOGS/ Līva Karīna Ritere, Ivars Lūsis
ANTIBIOTIC RESISTENCE OF INDICATOR ORGANISMS IN PRIMATES OF THE RIGA'S NATIONAL ZOO AND WILDLIFE PARK MALTA/ Ketlīna Asne Apele, Kaspars Kovaļenko
COMPARISON OF INTRAOCULAR PRESSURE VARIATIONS DURING MILD OPHTHALMIC PROCEDURES UNDER THREE DIFFERENT PREMEDICATION PROTOCOLS/ Dīana Birnere, Līga Kovaļčuka, Laura Voiko, Armands Vekšins
EXTRACTION AND CHARACTERIZATION OF BIOACTIVE COMPOUNDS AND AMINO ACIDS FROM SWEET AND SOUTHERN WORMWOOD

**(*ARTEMISIA* SPP.) AND THEIR ANTIMICROBIAL PROPERTIES AGAINST
PATHOGENIC MICROORGANISMS/ Evita Kalēja, Vitālijs Radenkovs, Daiga
Gāliņa, Anda Valdovska**

Agriculture & Food Science

<i>Moderator: Irina Sivicka</i>
EVALUATION OF KOMBUCHA CHARACTERISTICS / Klinta Madara Greiliha, Asnate Ķirse-Ozoliņa
DIFFERENT PHYTOHORMONE APPLICATION FOR ENHANCED MULTIPLICATION RATE IN STRAWBERRY PROPAGATION IN VITRO / Dewendra Gedara Ashani Erandi Danthasinghe, Anta Sparinska
THE USE OF SOILLESS SYSTEMS FOR CROP CULTIVATION / Roberts Bitnieks, Dzidra Kreišmane
QUALITY EVALUATION OF COLD-PRESSED HEMPSEED OIL STORED IN EDIBLE FILM MADE FROM PUMPKIN OIL CAKE / Alvīne Henriete Auziņa, Anete Ķeķe
BIOCONVERSION OF ACID WHEY FOR YEAST-BASED SINGLE-CELL PROTEIN PRODUCTION / Alina Sivačova, Inga Ciproviča
DEVELOPMENT OF GARLIC CONFIT / Lauma Vaivode, Liene Ozola
STORAGE POSSIBILITIES FOR SYMBIOTIC BACTERIA AND YEAST CULTURE USING VARIOUS DRYING METHODS / Artūrs Lapinskis, Asnate Ķirse-Ozoliņa
EFFECTS OF DIFFERENT HEAT TREATMENTS ON QUALITY OF SALMON WITH LEMON PEEL EXTRACT / Kamilē Žumbytē, Dalia Šablevičienē
QUALITY CHARACTERISTICS OF PASTA SUBSTITUTED WITH CHICKPEA AND ALMOND FLOUR / Kotryna Kupstaitytė, Dalia Šablevičienē
WINTER WHEAT DISEASES DEVELOPMENT AFFECTING FACTORS IN LATVIA / Ralfs Grickevičs, Biruta Bankina
NUTRIENT ACCUMULATION IN SEA BUCKTHORN (HIPPOPHAE RHAMNOIDES L.) PLANTATIONS/ Baiba Buša, Aldis Kārklīš
ANALYSIS OF THE PRODUCTIVITY OF SOWS DEPENDING ON THE TYPE AND SIZE OF THE FARROWING PEN / Patrīcija Paula Kijoneka, Lilija Degola
THE STUDY ON IMMUNOGLOBULINS IN COLOSTRUM DURING PROCESSING / Bibin Biju, Inga Ciproviča

Media Literacy

<i>Moderators: Joseph Horgan, Tatjana Šinkus</i>
ARTIFICIAL VOICES IN PODCASTING: ARE YOU FOR OR AGAINST? / Bartosz Wiśniewski
FROM CONFLICT TO CONNECTION: STRATEGIES FOR OVERCOMING CROSS-CULTURAL BARRIERS / Genta Abdiji, Gajur Memeti
DIGITAL ETIQUETTE ACROSS CULTURES: COMMUNICATING RESPECTFULLY IN A GLOBAL WORLD/ Berk Kocayigit, Jakob Riebenschahm
PUBLIC DIGITAL MEDIA VERSUS COMMERCIAL DIGITAL MEDIA / Anandhu Biju, Ansu Anna Cherian
VISUAL LANGUAGE OF SOCIAL MEDIA ADVERTISING / Maria Laur, Triin Lüll
CRITICAL REVISION OF THE VALUES OF CONSUMER SOCIETY IN THE FILM "FIGHT CLUB"/ Amanda Lejniece, Amanda Reinfelde
DISINFORMATION METHODS IN THE MANIPULATION OF ELECTIONS/ Anna Ostrenkova
MANIPULATION OF ELECTORATE USING FAKE NEWS/ Helen Sikora, Melissa Priidel
A CASE STUDY ON STUDENT RADIO: SIMILARITIES AND DIFFERENCES TO THE COMMUNITY MEDIA MODE/ Bartosz Kownacki, Michał Morawski
CRITICAL REVISION ABOUT THE MAIN REASON TO THINK CRITICALLY / Marius Chintea, Sebastian Tebbe
IMPERSONATION OF REAL PROFILES ON SOCIAL MEDIA TO DIVIDE SOCIETY / Naatan Pikkil, Rasmus Veeroja
YEARNING FOR TRUTH AND THE ROLE OF PERSONAL THINKING ACTIVITY IN THE DEVELOPMENT OF REAL CRITICAL THINKING / Anri Keßler
NECESSITY OF CONNECTING THE CAPACITY TO JUDGE AND THE CAPACITY TO ACT IN CRITICAL THINKING / Felix Schad
ASPECTS OF CRITICAL THINKING IN SACRED TEXTS (NEW TESTAMENT) / Pilleriin Teras, Laura Sökk
ROLE OF FAKE PROFILES IN CREATING SOCIETAL DIVISIONS / Lucas Gamrath, Kyo (Katharina) Kolb
TECHNOLOGY AS ENABLER OF FAKE NEWS / Melina Freudenberger

DIGITAL ETIQUETTE ACROSS CULTURES: THE CASE STUDY /
Emīls Terauds