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APPROX.

17th International Scientific Conference "The Vital Nature Sign"
Program

17th International Scientific Conference "The Vital Nature Sign" Dedicated to the 95th birthday anniversary of Professor Stellan Hjertén Program

Thursday, 18th of May 2023

[Microsoft Teams LINK to the conference](#)

9.00-9.10 **Opening of the conference:** *Prof. Habil. Dr. Juozas Augutis (Rector of Vytautas Magnus university)*
(Time zone GMT+3) *Prof. Dr. Saulius Mickevičius (dean of the Faculty of Natural Sciences)*
Prof. Habil. Dr. Audrius Maruška (chairman of the conference)

Oral presentations. Chairpersons: [Prof. Habil. Dr. Ona Ragažinskienė](#); [Prof. Habil. Dr. Audrius Maruška](#)

9.15-9.30 **Congratulation speech dedicated to the 95th birthday anniversary of Professor Stellan Hjertén**
Audrius Maruška

9.30-10.00 **Underwater Capillary Electrophoresis System: a Proof of Concept Instrument for Ocean Worlds**
[Tomas Drevinskas](#), Aaron C. Noell, Mauro S. Ferreira Santos, Maria F. Mora, Peter A. Willis, Morgan L. Cable, Masahiro Ono

10.00-10.15 **The Method Development for the Separation and Determination of Cyclitols and Carbohydrates from Biological Samples - As a Proposal for a New Diagnostic Method**
[Magdalena Ligor](#), Małgorzata Szultka-Młyńska, Agnieszka Kucharska

10.15-10.30 **Polyphenolic Compound Analysis in Alfalfa Using Supercritical Fluid Extraction and Ultra-Performance Liquid Chromatography-Tandem Mass Spectrometry**
[Justyna Walczak-Skierska](#), Katarzyna Rafińska

10.30-10.45 **Data Acquisition Strategies for Improved Proteome Profiling in Single Cell Proteomics**
[Ákos Végvári](#)

10.45-11.00 *Coffee break*

11.00-11.15 **Treatment of Freshwater Organisms with Polyethylene Microparticles: Toxicity and Trophic Transfer Evaluation in *Spirodela polyrhiza* (L.) Schleid. and *Echinogammarus veneris* (Heller, 1865)**
Valentina Iannilli, Laura Passatore, Serena Carloni, Francesca Lecce, Giulia Sciacca, [Massimo Zacchini](#), Fabrizio Pietrini

11.15-11.30 **Bioaccumulation of n-Perfluorooctanoic Acid (PFOA) in Basil (*Ocimum basilicum* L.) Leaves**
[Enrica Donati](#), Fabrizio Pietrini, Laura Passatore, Isabel Nogues, Anna Wyrwicka-Drewniak, Massimo Zacchini

11.30-11.45 **An Overview of Chitosan Extraction from Shrimp Waste through Chemical Methods and the Use of Artificial Neural Networks for Predicting Factors Influencing Chitosan Yield**
[Ahmed Hosney](#), Sana Ullah, Karolina Barčauskaitė

11.45-12.00 **The Influence of New Breeds Purple Wheat Wholemeal Flour Fermented with *Lactiplantibacillus plantarum* LUHS135 for the Quality Parameters and Acrylamide Formation in Wheat Bread**
Dovile Klupsaite, Aura Kaminskaite, Arnoldas Rimša, Agne Gerybaite, Agne Stankaityte, Ausra Sileikaite, Elzbieta Svetlauskaite, Emilija Cesonyte, Giedre Urbone, Karolis Pilipavicius, Konstancija Vaiginyte, Marija Vaisvilaite, Vilte Prokopenko, Giedre Stukonyte, [Emilis Radvila](#), Vytaute Starkute, Egle Zokaityte, Vita Lele, Darius Cernauskas, Ernestas Mockus, Zilvinas Liatukas, Vytautas Ruzgas, João Miguel Rocha, Elena Bartkiene



12.00-13.00(time zone
GMT+3)**Lunch break****Flash presentations I. Chairpersons: Dr. Mantas Stankevičius; MSc. Kristina Bimbraitė-Survilienė**

- 13.00** **The Impact of Enzymatic Hydrolysis to Ovine Meat By-Products Antioxidant and Antimicrobial Properties**
Ignė Juknienė, Agnė Jankauskienė, Irena Mačionienė, Gintarė Zaborskienė
- 13.07** **The Study of Bystander Effect After Combining Calcium Electroporation, Electrotransfer of Anticancer Drug Bleomycin or Irreversible Electroporation**
Neringa Barauskaitė, Paulius Ruzgys, Vitalij Novickij
- 13.14** **Factors Determining the Severity of COVID-19 in Pakistani Population**
Hina Tabassum, Numan Javed
- 13.21** **Nutritional Value and Functionality of Beef Sausage Enriched with Omega-3 Fatty Acid Sources in Tandem with Fruit, or Vegetable Additives**
Agnė Šeputytė, Gintarė Zaborskienė, Vaida Andrulevičiūtė, Ingrida Sinkevičienė, Ignė Juknienė, Artūras Kašauskas, Artūras Stimbirys
- 13.28** **Spectrometric and Chromatographic Assessment of Radical Scavenging and Bioactive Compound Accumulation in Medical Plants**
Domantas Armonavičius, Mantas Stankevičius, Ona Ragažinskienė, Hirotaka Ihara, Makoto Takafuji, Yutaka Kuwahara, Shoji Nagaoka, Elżbieta Skrzydlewska, Audrius Maruška
- 13.35** **Determination of Potentially Skin-Sensitizing Compounds of Commercial Sweet Birch (*Betula lenta* L.) Essential Oil in Different Potential Nanoemulsions**
Modesta Čaplikaitė, Kristina Bimbraitė-Survilienė
- 13.42** **Analysis of Biologically Active Compounds of Medicinal Plants of the Noreli Family**
Martina Kazočiūnaitė, Kristina Bimbraitė-Survilienė, Audrius Maruška
- 13.49** **White Rot Fungus Enzymes Laccase and Manganese Peroxidase Influence on the Bioremediation**
Redas Dzekunskas, Mantas Stankevičius, Rūta Mickienė, Audrius Maruška
- 13.56** **Composition of Volatile Compounds of Roman Chamomile at Different Vegetation Phases**
Renata Barauskienė, Monika Bertašiūtė, Petras R. Venskutonis, Ona Ragažinskienė
- 14.03** **Mathematical Modelling of Drying Kinetics of Forced Convection Drying Method of Potato Peels Waste**
Fatiha Brahmi, Inmaculada Mateos-Aparicio, Khokha Mouhoubi, Sara Guemouni, Farid Dahmoune, Ferroudja Belmehdi, Chafiaa Bessai, Khodir Madani, Lila Boulekbache-Makhlouf

14.10-14.25 **Coffee break****Flash presentations II. Chairpersons: Dr. Rūta Mickienė; Assoc. Prof. Dr. Vilma Kaškonienė**

- 14.25** **Examining the Impact of Stainless Steel and Titanium Electrodes on Cell Transfection, Permeability, Pore Resealing and Viability**
Dominyka Gabulaitė, Baltramiejus Jakštys, Saulius Šatkauskas
- 14.32** **In vitro studies on drug and gene transfer into cells**
Lukas Giedrimas, Saulius Šatkauskas
- 14.39** **Analysis of Biologically Active Compounds in Natural Food Supplements**
Laura Šimaitytė, Kristina Bimbraitė-Survilienė, Mantas Stankevičius, Audrius Maruška

- 14.46** **Evaluation of the Effect of Enzymatic Hydrolysis on Bee Bread and Bee Pollen**
(time zone GMT+3)
Liveta Muliulytė, Vilma Kaškonienė, Audrius Maruška
- 14.53** **Comparison of Phenolic Content and Antioxidant Activity of *Bjerkandera adusta* Extracts Before and After Heat-Shock Treatment**
Karolis Klusas, Nicola Tiso
- 15.00** **The Impact of Fermentation Using Symbiotic Cultures Combined with Ultrasound Treatment on Antioxidant and Antibacterial Activity of Common Oak (*Quercus robur*) Bark**
Greta Raškauskienė, Vilma Kaškonienė, Rūta Mickienė, Audrius Maruška
- 15.07** **Evaluation of the Impact of Various Treatment Methods on Bee-Collected Pollen Biological Activity**
Lukas Asanavičius, Vilma Kaškonienė, Nicola Tiso, Audrius S. Maruška
- 15.14** **Distribution of *Micromicetus* in Fresh Medicinal Material of Rosehip (*Rosa canina* L.) and Guelder-rose (*Viburnum opulus* L.)**
Paula Batutytė, Kornelijus Micka, Rūta Mickienė, Audrius Maruška
- 15.22** **Monitoring Research of Genotype to Scrapie in Lithuanian Sheep Breeds**
Oksana Ilina, Edita Meškinyte, Jūratė Staveckienė
- 15.30** **Antimicrobial Activity and Phytochemical Composition of Oregano, Peppermint, Thyme, and Lavender Essential Oils**
Deimantė Jurevičiūtė, Ugnė Gabrytė, Rūta Mickienė, Audrius Sigitas Maruška
- 15.37** **Novel N-substituted Aminopyridine Derivatives: Synthesis and Antibacterial Activity**
Gabrielė Juraitytė, Simona Gelažunaitė, Paulius Ruzgys, Vida Malinauskienė
- 15.44** **Assessment of the Effect of Agrotechnologies on Total Respiration in Agroecosystems**
Ligita Baležentienė
- 15.50** **Potential of Agrotechnologies to Reduce Carbon Footprint Facility in Agroecosystems**
Ligita Baležentienė
- 15.57** **Assessment of Invasive Species' Photosynthetic and Transpiration Response to Invaded Habitat**
Ligita Baležentienė
- 16.05** **Comparative Efficacy of *Nicotiana tabacum* and *Azadirchta indica* Extracts Along with Their Green Synthesized Nano-ZnO Particles Against *Brevicoryne brassicae* L.**
Muhammad Irfan Shan, Muhammad Hamid Bashir, Faisal Noor, Rana Muhammad Mazhar Ali, Farwa Alsam

Closing of the Session

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Friday, 19th of May 2023

Oral presentations. *Chairpersons: Prof. Dr. Elena Bartkienė; Assoc. Prof. Dr. Vilma Kaškonienė*

- 9.00-9.15** **The Influence of Different Treatment Time and Marinades Based on Valorized Food Industry By-Products on the Quality and Safety Parameters of Lamb Meat**
(time zone GMT+3)
Paulina Zavistanaviciute, Jolita Klementaviciute, Dovile Klupsaite, Modestas Ruzauskas, Vilija Buckiuniene, Pranas Viskelis, Elena Bartkiene
- 9.15-9.30** **Functionalised Rice Bran as A Promising Substrate Supplement to Enhance Horticulture Plant Growth and Resistance Against Stem and Root Rot-Associated Pathogens**
Ruta Vaitkeviciene, Natalija Burbulis, Ramune Masiene, Rimgaile Degutyte, Daiva Zadeike
- 9.30-9.45** **Application of Bio-preservatives in the Production of Hot-smoked Pork Sausages, Evaluation of the Effect on the Formation of Carcinogenic Substances**
Gintarė Zaborskienė, Sonata Gustienė, Ignė Juknienė, Artūras Stimbirys, Vaida Andrulevičiūtė, Aistė Kabašinskienė, Ingrida Sinkevičienė
- 9.45-10.00** **Influence of Salting Method on Chemical Parameters and Sensory Indices of Cold Smoked Atlantic Salmon (*Salmo salar*)**
Artūras Stimbirys, Diana Vasiliauskaitė, Gintarė Zaborskienė, Ingrida Sinkevičienė, Ignė Juknienė
- 10.00-10.15** **Formation of Bioactive Compounds in Fermented Microalgae Spirulina**
Ernesta Tolpeznikaite, Vadims Bartkevics, Anna Skrastina, Romans Pavlenko, Modestas Ruzauskas, Vytaute Starkute, Egle Zokaityte, Dovile Klupsaite, Romas Ruibys, João Miguel Rocha, Elena Bartkiene
- 10.15-10.30** **The Mechanisms of Molybdenum Toxicity**
Sylwia Terpilowska
- 10.30-10.45** *Coffee break*
- 10.45-11.00** **Determination of Radical Scavenging Activity in Postharvest Microgreens *Brassica Juncea* and *Amaranthus Tricolor* Grown Under Different Light Spectrum**
Ieva Gudžinskaitė, Giedrė Samuolienė, Kristina Laužikė
- 11.00-11.15** **Scalded and Scalded Fermented with *Lactiplantibacillus paracasei* Strain Rye Wholemeal Flour Influence on the Quality and Acrylamide Formation in Bread**
Dovile Klupsaite, Vytaute Starkute, Egle Zokaityte, Darius Cernauskas, Ernestas Mockus, Evaldas Kentra, Rugilė Sliazaitė, Gabriele Abramaviciute, Paulina Sakaite, Vitalija Komarova, Ieva Tatarunaite, Sandra Radziune, Paulina Gliaubiciute, Monika Zimkaite, Julius Kuncė, Sarune Avizienyte, Milena Povilaityte, Kotryna Sokolova, Emilis Radvila, João Miguel Rocha, Fatih Özogul, Elena Bartkiene
- 11.15-11.30** **Nutraceutical Gummy Candies Formulations with Biomodified *Arthrospira platensis* as a Source of L-Glutamic and Gamma-Aminobutyric Acids**
Elena Bartkiene, Ernesta Tolpeznikaite, Dovile Klupsaite, Vytaute Starkute, Vadims Bartkevics, Anna Skrastina, Romans Pavlenko, Ernestas Mockus, Vita Lele, Gabija Batkeviciute, Ausrine Budrikyte, Rusne Janulyte, Ieva Jomantaite, Auguste Kybartaitė, Karolina Knystautaitė, Aiste Valionyte, Emilis Radvila, Romas Ruibys, João Miguel Rocha



- 11.30-11.45** **Green Synthesis of Natural Colchinoids Using Electrochemistry**
(time zone GMT+3)
Yi Du, Shakib Kazmi, Andrei V. Malkov
- 11.45-12.00** **Lactic Acid Bacteria Isolation, Identification, Characterization and Applications in The Food/Feed Industry**
Vita Lėlė, Modestas Ruzauskas, Konrad Domig, Vadims Bartkevics, João Miguel Rocha, Elena Bartkiene
- 12.00-13.00** **Lunch break**
- Flash presentations I. Chairpersons: Dr. Paulius Ruzgys; Dr. Nicola Tiso**
- 13.00** **Effect of ZnO Nanoparticles of Different Sizes on Growth Parameters of Swiss Chard (*Beta vulgaris* ssp. *cicla* L.)**
Eimantas Andrikis, Aušra Brazaitytė, Rūta Sutulienė, Martynas Urbutis, Simona Tučkutė
- 13.07** **Abscisic acid: antioxidant response of different growth strategy crops**
Martynas Urbutis, Giedrė Samuolienė
- 13.14** **Independent and Simultaneous Electrotransfer of Large Charged Molecules**
Rūta Palepšienė, Saulius Šatkauskas
- 13.21** **MALDI/TOF MS Technique as A Method for Identifying Microorganisms of Forensic Significance with Simultaneous Indication of Differences in Protein Profiles of Strains From Different Sources**
Monika Radosińska, Aleksandra Radtke, Paweł Pomastowski, Michał Złoch, Aleksandra Florkiewicz, Ewelina Maślak
- 13.28** **Analysis of High- and Low-Energy Electroporation Effect on Molecule Transfer**
Aras Rafanavičius, Rūta Palepšienė, Saulius Šatkauskas
- 13.35** **Application of Highly Ordered π -electron Materials Incapsulating in Monolithic Columns**
Mantas Stankevičius, Kristina Bimbiraitė-Survilienė, Domantas Armonavičius, Audrius Maruška, Hirota Iyama, Makoto Takafuji, Elżbieta Skrzydlewska, Ona Ragažinskienė, Yutaka Kuwahara, Shoji Nagaoka, Nanami Hano, Yongxing Hu, Vilma Kaškonienė
- 13.42** **Determination of Radical Scavenging Activity in Postharvest Microgreens *Brassica oleracea* Grown Under Different Light Spectrum and Intensity**
Eimantas Kielius, Giedrė Samuolienė, Ieva Gudžinskaitė
- 13.49** **Size of Hypoxic Regions in Glioblastoma Spheroids Influence mRNA Isoform Formation**
Aistė Semionovaitė, Karina Šapovalovaitė, Eglė Jakubauskienė
- 13.56** **Estonian Honey as an Anti-Borrelia Agent**
Pille-Riin Laanet, Piia Jõul, Piret Saar-Reismaa, Olga Bragina, Merike Vaher
- 14.03** **Bisphenol A – Potential Factor of Miscarriage**
Wioleta J. Omeljaniuk, Wojciech Miltyk
- 14.10-14.25** **Coffee break**
- Flash presentations. Chairpersons: Dr. Mantas Stankevičius, MSc. Kristina Bimbiraitė-Survilienė**
- 14.25** **Biological and Phytochemical Analyzes of 5 Plants Used Against Verminosis in Goats in DR Congo: Anthelmintic Screening, Acetylcholinesterase Inhibition, Cytotoxicity and Phenolic Compound Profiling**
Gaël Nzuzi Mavungu, Salvius Bakari Amuri, Amandine Nachtergaele, Sandrina Vandenput, Sujogya Kumar Panda, Victor Okombe Embeya, Walter Luyten, Pierre Duez

- 14.32** **Concentration-Dependent Effects of 2,3,5-Triiodobenzoic Acid on Spruce and Pine Seed Germination and Seedling Development In Vitro**
(time zone GMT+3)
Guoda Kolkatovaitė, Jonas Žiauka
- 14.39** **Training of Future Health Professionals on Zoonotic Diseases for Poor Communities in Lubumbashi Through the One Health Approach**
Ngoni I. Abdallah, Maryabo K. Ghislaine, Bukasa K. Jean-Adelard, Ndibualonji B.B. Victor, Bakari A. Salvius
- 14.46** **Cow's Milk Bacteria Identification and Differentiation by LDI-MS Approaches**
Jagoda Pałczyńska, Oleksandra Pryshecha, Aleksandra Radtke, Piotr Piszczek, Aleksandra Florkiewicz, Ewelina Maślak, Paweł Pomastowski
- 14.53** **Quantitative and Qualitative Analysis of Volatile Compounds in Different Varieties of Fibrous Hemp Inflorescences**
Algimanta Kundrotaitė, Karolina Barčauskaitė
- 15.00** **Towards Side Effect Free Anticancer Therapy**
Reda Rulinskaitė, Rūta Palepšienė, Saulius Šatkauskas, Renaldas Raišutis, Martynas Maciulevičius
- 15.07** **Dosage Form Influence on Transungual Delivery of Amorolfine HCl**
Sigita Ramaškaitė, Indrė Šveikauskaitė-Radučienė
- 15.14** **Pullulan as Film-Forming Polymer for Hydrophilic Nail Lacquer Formulations**
Kamilia Kalso, Indrė Šveikauskaitė-Radučienė
- 15.21** **High Concentrations of Tetracycline Reduce Light Use Efficiency in *Brassica napus* Leaves**
Irena Januškaitienė, Aušra Dikšaitytė, Giedrė Kacienė, Diana Miškelytė, Gintarė Sujetovienė, Renata Dagiliūtė, Jūratė Žaltauskaitė
- Closing of the Conference**