XII International conference

BALTTRIB' 2024

CONFERENCE PROGRAMME

Vytautas Magnus University
Akademija, Kaunas

21-23 November 2024

Conference venue:

4th building of Vytautas Magnus University (VMU)
Universiteto 8A, Akademija
LT-53345 Kauno r.
LITHUANIA

Contacts:
E-mail: *balttrib@vdu.lt*

Internet: *http://www.balttrib.info*

CONFERENCE ORGANISED BY:

Vytautas Magnus University

Lithuanian Scientific Society Department „Tribologija“

International Tribology Council

Conference topics:

- Friction and wear of friction pairs in agricultural, transport and industrial machinery;
- Lubrication;
- Micro- and nano-scale tribology;
- Tribochemistry;
- Bio-tribology;
- Environmental issues in tribology;
- Surface science and coating engineering;
- Tribology in metal processing;
- Simulation of tribological processes;
- Experimental methods in tribology.

Address:

International Conference “BALTTRIB’2024”
Department of Mechanical, Energy and Biotechnology Engineering
Vytautas Magnus University (VMU)
Studentu 15, Akademija
LT-53362 Kauno r.
LITHUANIA

E-mail: *balttrib@vdu.lt*

Internet: *http://www.balttrib.info*

Conference programme

21 November 2024

Venue: 4th Building of VMU, Universiteto 8A, Akademija

07:00	Registration	4th Building of VMU, lobby
08:45	**Opening Session**	Conference Hall (Room 214)
09:00	**Plenary Session**	Conference Hall (Room 214)
10:30	Coffee break	
11:00	**Plenary Session**	
12:30	Lunch	
14:00	**Invited lectures**	Conference Hall (Room 214)
16:30	Coffee break	
17:00	**Invited lectures**	Conference Hall (Room 214)
18:30	Get-together (Lobby, 1st floor)	

22 November 2024

Venue: 4th Building of VMU, Universiteto 8A, Akademija

09:00	**Scientific sections**	
	Section 1 Surface processing and surface science	Conference Hall (Room 214)
	Section 2 Friction and wear in tribosystems	Room 211
10:30	Coffee break	
11:00	**Poster presentation**	Conference Hall (Room 214)
12:00	**Scientific sections**	
	Section 3 Lubricants and lubrication	Conference Hall (Room 214)
	Section 4 New directions and applications	Room 211
13:30	Lunch	
14:30	**Discussions; Closing remarks**	Conference Hall (Room 214)
15:00	**Tour to Tribology and Surface science laboratories** at the Department of Mechanical, Energy and Biotechnology Engineering	
17:00	Free time in Kaunas downtown.	

Cultural programme

23 November 2024

07:00	Departure for **Cultural programme in the Minor Lithuania** (from **Central Building VMU AA** 07:00)
20:00	Return to VMU AA.

REMARK:

Participation in cultural programme in the Minor Lithuania is charged separately from conference fee. Content of cultural programme is presented at the end of the conference programme.

21 November 2024

PLENARY SESSION

09:00 – 12:30 Conference Hall of 4th building of VMU (Room 214)

Chairmen: ***R.Rukuiža***, Co-chairman ***J. Padgurskas***

MULTISCALE MOLECULAR MODELING OF GREASE
Hitoshi Washizu, *Yasukaze Nishimura, Tomoya Hasegawa, Takehiro Kobayashi, Naoki Takahashi, Ryuichi Okamoto, University of Hyogo, Japan*

DECODING SIGNALS IN NANOTRIBOLOGY
Antanas Daugėla, *Nanometronix LLC, USA*

10:30 – 11:00 COFFEE BREAK

LASER-INDUCED SURFACE STRUCTURING: TECHNIQUES AND APPLICATIONS WITH A FOCUS ON TRIBOLOGY
Pavels Onufrijevs*, Jevgenijs Kaupuzs, Ernests Jansons, Janis Lungevics, Armands Leitans, Raimonds Sirants, Irina Boiko, Riga Technical University, Latvia, Juozas Padgurskas, Vytautas Magnus University, Lithuania*

FINITE ELEMENT MODELING OF STRESS BEHAVIOR IN COLD FORGING PROCESSES UTILIZING PALM KERNEL OIL AS A BIO-LUBRICANT
Syahrullail Samion*, Aiman Yahaya, Zulhanafi Paiman, Koleola Ojaomo, Muhammad Noor Afiq Witri Muhammad Yazid, Syafiq Abdul Aziz, Universiti Teknologi Malaysia, Malaysia, Imperial College London, United Kingdom.*

COMPOSITES FROM BIO-BASED POLYURETHANES AND PLANT-FIBERS: TRIBOLOGICAL INVESTIGATION
*Vitoldas Vilčinskas, Juozas Padgurskas, Audrius Žunda****, Raimundas Rukuiža,*** *Vytautas Magnus University, Lithuania; Lidiane P. Gonçalves, Elisabete Frollini, University of São Paulo, Brazil, Simona Tučkutė, Lithuanian Energy Institute, Lithuania*

12:30 – 14:00 LUNCH

INVITED LECTURES

14:00 – 18:30 Conference Hall of 4th building of VMU (Room 214)

Chairmen: ***P. Onufrijevs***, Co-chairman ***A. Žunda***

IS SURFACE TEXTURING REALLY EFFICIENT IN HYDRODYNAMIC LUBRICATED BEARINGS?
Michel Fillon*, France*

LESSONS FROM NATURE: BIOINSPIRED MECHANICALLY DURABLE AND SELF-HEALING SUPERLIQUIPHOBIC/PHILIC SURFACES
Bharat Bhushan*, The Ohio State University, USA*

PROSPECTS AND CHALLENGES OF LUBRICATING FLUIDS IN ELECTRIC VEHICLES
Hong Liang*, Texas A&M University, USA*

16:30 – 17:00 COFFEE BREAK

WEAR OF CERMETS WITH IRON-BASED BINDERS
Jakob Kübarsepp*, Kristjan Juhani, Tallinn University of Technology, Estonia*

IMPROVEMENT OF MECHANICAL AND SUPERCONDUCTIVE PROPERTIES OF NB ON CU STRUCTURE FOR RF CAVITY BY LASER RADIATION
Arturs Medvids*, Oleg Malyshev, Reza Valizadeh, Juozas Padgurskis, Audrius Zunda.*

18:30 Get-together (Lobby, 1st floor)

SCIENTIFIC SECTIONS

22 November 2024

Section 1

Surface processing and surface science

09:00 – 10:30 Conference Hall (Room 214) Chairmen: ***I. Boiko***, Co-chairman ***V. Vilčinskas***

INVESTIGATION OF THE INFLUENCE OF DIFFERENT COATING METHODS AND MATERIALS ON WEAR RESISTANCE

Justas Listauskas, *Vytenis Jankauskas, Egidijus Katinas, Justinas Gargasas, Simona Tučkutė, Vytautas Magnus University, Lithuanian Energy Institute, Lithuania, Czech University of Life Sciences Prague, Czech Republic,*

EFFECT OF HEAT TREATMENT ON THE ABRASION WEAR RESISTANCE OF MANUALLY PREPARED WELDED JOINTS OF MARTENSITIC STEEL WITH BORON

Martyna Zemlik, *Łukasz Konat, Beata Białobrzeska, Krzysztof Jamroziak, Wrocław University of Science and Technology, Poland*

STRESS IN ARC SPRAY COATINGS AND THEIR INFLUENCE ON ABRASIVE WEAR RESISTANCE

Volodymyr Hvozdets'kyi, Juozas Padgurskas, Mykhailo Student, Iryna Pohrelyuk, Oleksandra Student, Khrystyna Zadorozhna, Aleksander Luk'yanenko, Sergii Lavrys, Nestor Mozola, Karpenko Physico-Mechanical Institute of National academy of sciences of Ukraine, Ukraine, Vytautas Magnus University, Lithuania

FORMATION OF WEAR- AND CORROSION-RESISTANT ARC SPRAY COATINGS FROM CORED WIRES

Volodymyr Hvozdets'kyi, Juozas Padgurskas, Oleh Tkachuk, Mykhailo Student, Oleksandra Student, Iryna Pohrelyuk, Khrystyna Zadorozhna, Ihor Kovalchuk, Aleksander Luk'yanenko, Karpenko Physico-Mechanical Institute of National academy of sciences of Ukraine, Ukraine, Vytautas Magnus University, Lithuania

EFFECT OF SUPERSONIC ARC SPRAYING WITH CORED WIRES ON WEAR RESISTANCE OF COATINGS

Volodymyr Hvozdets'kyi, Juozas Padgurskas, Alexander Luk'yanenko, Mykhailo Student, Iryna Pohreliuk, Oleksandra Student, Khrystyna Zadorozhna, Nestor Mozola, Karpenko Physico-Mechanical Institute of National academy of sciences of Ukraine, Ukraine, Vytautas Magnus University, Lithuania

Section 2

Friction and wear in tribosystems

09:00 – 10:30 Room 211 Chairmen: ***D. Konopka***, Co-chairman ***A. Žunda***

DESIGN OF A SOIL RIPPER TOOL WITH A SHIP BULBOUS BOW GEOMETRY: DRAUGHT FORCE EVALUATION AND DEM SIMULATION

Egidijus Katinas, *Regita Bendikienė; Vytenis Jankauskas; Antanas Čiuplys, Czech University of Life Sciences Prague, Czech Republic, Vytautas Magnus University, Kaunas University of technology, Lithuania*

EFFECT OF INHIBITORY COMPOSITION BASED ON DEXTRIN AND ZINC GLUCONATE ON TRIBOCORROSION OF ALUMINIUM ALLOY

Sergiy Korniy, ***Marjana Tymus****, Ivan Zin, Nadiya Rats'ka, Bogdan Datsko, Karpenko Physico-Mechanical Institute of National academy of sciences of Ukraine, Ukraine*

EFFECT OF H_2S AND CO_2 ON THE CORROSION AND TRIBOCORROSION OF CARBON STEEL IN CHLORIDE-ACETATE SOLUTION

M.S. Khoma, V.A. Vynar, M.R. Chuchman, Ch.B. Vasyliv, N.B. Ratska, O.M. Vasyliv, Karpenko Physico-Mechanical Institute of National academy of sciences of Ukraine, Ukraine

TOOL WEAR ESTIMATION IN THE MILLING OF WOOD-PLASTIC COMPOSITES USING A HYBRID 3D COUPLED SPH-FEM SIMULATION

Almontas Vilutis*, Vytenis Jankauskas, Vytautas Magnus University, Lithuania*

A STUDY ON ABRASIVE WEAR RESISTANCE OF TIPPER BODY MATERIALS: FOCUS ON ALUMINUM AND STEEL ALLOYS

Artūras Katinas*, Vytenis Jankauskas; Audrius Žunda; Simona Tučkutė, Vytautas Magnus University, Lithuanian Energy Institute, Lithuana*

ENHANCEMENT OF WEAR RESISTANCE OF Ti6Al4V TITANIUM ALLOY BY SURFACE MODIFICATION

Serhii Lavrys*, I. Pohrelyuk, J. Padgurskas, T. Matijošius, I. Bilonik, O. Tkachuk, Karpenko Physico-Mechanical Institute of the NAS of Ukraine, Vytautas Magnus University, Lithuania*

Section 3

Lubricants and lubrication

12:00 – 13:30 Room 211 Chairmen: ***Hitoshi Washizu*** Co-chairman ***T. Matijošius***

TRIBOLOGICAL STUDIES OF LASER-TEXTURED TITANIUM ALLOYS IN THE PRESENCE OF BIOLUBRICANTS
T. Matijošius, L. Staišiūnas, A. Selskienė, G. Bikulčius, P. Onufrijevs, J. Padgurskas, Vytautas Magnus University, Lithuania, State Research Institute Center for Physical Sciences and Technology, Lithuania, Riga Technical University, Latvia

PIV ANALYSIS OF THE FLOW BEHAVIOR IN THE CONTACT AREAS OF UREA GREASES WITH DIFFERENT THICKENER SIZES
Shunsuke NAKAMIZO, Ryota ISHII, Kazumi SAKAI, Toru IZUMI Reo MIWA Norifumi MIYANAGA, *Kanto Gakuin University, ENEOS Corporation, Japan*

FRICTION CHARACTERISTICS BETWEEN PISTON RING AND CYLINDER LINER IN AMMONIA-DISPERSED ENGINE OIL
Takumi UEHARA, Emir YILMAZ, Ryota ISHII, Reo MIWA, Norifumi MIYANAGA, Kanto Gakuin University, Waseda University, Sophia University, Japan

TRIBOLOGICAL EVALUATION OF PALM OIL-BASED TRIMETHYLOLPROPANE (TMP) LUBRICANT ENHANCED WITH GRAPHENE OXIDE FOR ENGINE OIL APPLICATIONS
Syahrullail Samion, Aiman Yahaya, Zulhanafi Paiman, Muhammad Noor Afiq Witri Muhammad Yazid, Universiti Teknologi Malaysia, Malaysia

SUPERIOR LUBRICITY DEMONSTRATING HYBRID ADDITIVES FOR WATER-BASED LUBRICANTS.
Raimondas Kreivaitis*, Jolanta Treinytė, Artūras Kupčinskas, and Milda Gumbytė, Vytautas Magnus University, Lithuania*

NUMERICAL AND EXPERIMENTAL INVESTIGATION ON EHL IN INTERMITTENT MOTION
Jing Wang, Mingyu Zhang, Donghua University, China

Section 4

New directions and applications

12:00 – 13:30 Conference Hall (Room 214) Chairmen: ***S. Lavrys***, Co-chairman ***R. Kreivaitis***

ENVIRONMENTALLY FRIENDLY LUBRICANTS: THE ROLE OF BIOPOLYMERS IN MODERN TRIBOLOGY
Zineb Chiki, Salima Ben Tahar, Aurelija Ramanauskaitė, Povilas Mulerčikas, Juozas Padgurskas, Lamcharfi Taj-dine, Noureddine Idrissi Kandri, Sidi Mohamed Ben Abdellah University, Morocco, Vytautas Magnus University, Lithuania, National Agency of Medicinal and Aromatic Plants, Morocco

INVESTIGATION OF MECHANOCHROMIC AND TRIBOLOGICAL PROPERTIES OF A NOVEL THERMALLY ACTIVATED DELAYED FLUORESCENCE CARBAZOLE DERIVATIVE FOR LIGHT-EMITTING ELECTROCHEMICAL CELL APPLICATION
Marzieh Rabiei, Juozas Padgurskas, Raimundas Rukuiza, Vytautas Magnus University, Lithuania

DESIGN AND INVESTIGATION OF TADF COLUMNAR LIQUID CRYSTAL BASED ON CARBAZOLE AND PHENOXAZINE DERIVATIVES
Sohrab Nasiri, Juozas Padgurskas, Raimundas Rukuiza, Vytautas Magnus University, Lithuania

TRIBOCORROSION PHENOMENA IN MARINE ENVIRONMENT: THE EFFECT OF NORMAL LOAD ON THE SYNERGY BETWEEN MECHANICAL AND CHEMICAL WEAR
Alessandro Ruggiero, Marco De Stefano, University of Salerno, Italy

INTEGRATION OF PVD THIN-FILM SENSORS IN ROLLING BEARINGS FOR ENHANCED CONDITION MONITORING IN TRIBOLOGICAL APPLICATIONS
***D. Konopka**, T. Steppeler, R. Ottermann, H. Siemßen, B. Wicht, F. Dencker, M.C. Wurz, M. Marian, F. Pape, G. Poll, Leibniz University Hannover, Germany*

TRIBOLOGICAL ASPECTS OF GRAPHENE AND ITS DERIVATIVES
***Çağla Gizem Acar,** Audrius Žunda, Vytautas Magnus University, Lithuania*

POSTER PRESENTATIONS

NITRIDING OF LONG HOLES IN A CYCLICALLY SWITCHED DISCHARGE
Andrii Martyniuk, Stechyshyn M.S., Zdorenko D.V., Khmelnytskyi National University, Ukraine

AN INCREASE IN THE ENERGY EFFICIENCY OF VORTEX MICRO HPP WITH A FLEXIBLE OUTLET SIPHON AND ASCENDING WATER INTAKE CHANNEL
Badri Zivzivadze, Omari Zivzivadze, Archil Geguchadze, David Dzadzamia, Anzori Kuparadze, Nata Sulakvelidze, Akaki Tsereteli State University, Kutaisi, Georgia

TRIBOLOGICAL PERFORMANCE OF LASER STRUCTURED STAINLESS-STEEL ON ICE SUBSTITUTE MATERIAL – POLYOXYMETHYLENE (POM)
Armands Leitans, Ernests Jansons, Janis Lungevics, Cristhian Cobas Montero, Raimonds Sirants, Irina Boiko, Jevgenijs Kaupuzs, Pavels Onufrijevs , Riga University of Technology, Latvia

SIMULATION BY THE FINITE ELEMENT METHOD OF THE WEAR BEHAVIOUR OF UNLUBRICATED SURFACE AND LINEAR CONTACTS
BELARIFI Farid, BOUSBAA Yasmine, DA SILVA BOTELHO Tony, IMSI-University Oran2, Algeria

TRIBOLOGICAL APPLICATIONS OF MOLYBDENUM: INVESTIGATING THE IMPACT OF TEMPERATURE AND OXIDES
Damian Collini, Hannes Traxler, Carsten Gachot, TU Vien, Austria

DEVELOPMENT OF A THEORETICAL MODEL FOR TRANSFORMATION OF AMORPHOUS NANODISPERSED CARBON INTO DIAMOND NANOCRYSTALS USING TRIBOSYNTHESIS METHODS
Giorgi Abramishvili, Elguja Kutelia, Jumber Iosebidze, Tamaz NatriaSvili, Besik Eristavi, Konstantin Beradze, Georgian Technical University, Georgia

IMPROVEMENT OF PERFORMANCE PROPERTIES OF TITANIUM ALLOYS BY APPLYING PEO COATINGS
Halyna Chumalo, Posuvailo V., Tkachuk O., Shliakhetka Kh., Proskurnyak R, Bilonyk D, Karpenko Phisico-Mechanical Institute of the National Academy of Sciences of Ukraine, Ukraine

THE CHROME AND NICKEL CO-DOPING EFFECT ON THE MICROSTRUCTURE AND NANOTRIBOLOGICAL PROPERTIES OF DIAMOND LIKE CARBON FILMS
Hassan Zhairabany, Liutauras Marcinauskas, Hesam Khaksar, Edgars Vanags, Anatolijs Sarakovskis, Kaunas University of Technology, Lithuania

INCREASING THE WEAR RESISTANCE OF INTERNAL COMBUSTION ENGINE CYLINDER LINERS BY APPLYING ANTIFRICTION COATINGS
Ihor Shepelenko, Ya. Nemyrovskyi, M. Chernovol, V. Shumliakivsky, R. Kolodnytska, M. Krasota, Central Ukrainian National Technical, Ukraine

MODELLING OF TEMPERATURE CHANGES DURING THE ICE FRICTION EXPERIMENT
Jevgenijs Kaupuzs, Pavels Onufrijevs, Ernests Jansons, Janis Lungevics, Armands Leitans, Raimonds Sirants, Riga University of Technology, Latvia

ADHESIVE WEAR OF TOOL STEELS WITH FUNCTIONAL COATINGS
O. Dykha, O. Makovkin, I. Valchuk, Khmelnitsky National University, Ukraine

IMPROVEMENT OF CAR TIRES TRIBOLOGICAL PROPERTIES IN MOTION
V. Karpenko, V. Volkov, E. Nescreba, V. Kuzhel, T. Volkova, Kharkiv National Automobile and Highway University, Vinnytsia National Technical University, Ukraine

THE COMPARATIVE EVALUATION OF CLEANING METHODS FOR AVIATION MINIATURE ROLLING BEARINGS
Oleksandr Yakobchuk, Ruslan Kostyunik, Oksana Mykosianchyk, Aleksander Stelmakh, Aleksey Kuschev, Olena Kovalchuk, National Aviation University, Ukraine

LASER-INDUCED PERIODIC SURFACE STRUCTURING IMPACT ON STAINLESS-STEEL MICROHARDNESS CONSIDERING SURFACE TEXTURE
Raimonds Sirants, Janis Lungevics, Ernests Jansons, Armands Leitans, Cristhian Cobas Montero, Jevgenijs Kaupuzs, Irina Boiko, Pavels Onufrijevs, Riga Technical University, Latvia

INVESTIGATION OF VIBRATIONS OF LAYERED ELEMENTS OF AGRICULTURAL MACHINES
Jūratė Ragulskienė, Arvydas Pauliukas, Petras Paškevičius, Rimas Maskeliūnas, Vytautas Maskeliūnas, Anatolii Korpach, Liutauras Ragulskis, Kaunas University of Technology, Lithuania, Vytautas Magnus University, Lithuania, Company "Vaivora", Lithuania, Vilnius Gediminas Technical University, Lithuania, National Transport University, Ukraine

INVESTIGATION OF VIBRATIONS OF IDEALLY LUBRICATED CIRCULAR ELEMENT OF AGRICULTURAL MACHINES
Jūratė Ragulskienė, Arvydas Pauliukas, Petras Paškevičius, Rimas Maskeliūnas, Vytautas Maskeliūnas, Igor Murovanyi, Liutauras Ragulskis, Kaunas University of Technology, Lithuania, Vytautas Magnus University, Lithuania, Company "Vaivora", Lithuania, Vilnius Gediminas Technical University, Lithuania, Lutsk National Technical University, Ukraine

CAVITATION EROSION OF 3D PRINTED MARAGING STEEL
T. Lazović, P. Ljubojević, M. Dojčinović, S. Ćirić-Kostić, N. Bogojević, University of Belgrade, University of Kragujevac, Serbia

DESIGN AND INVESTIGATION OF TADF COLUMNAR LIQUID CRYSTAL BASED ON CARBAZOLE AND PHENOXAZINE DERIVATIVES
Sohrab Nasiri, Juozas Padgurskas, Raimundas Rukuiza, Vytautas Magnus University, Lithuania

LANGUAGE

The conference language is English.

INFORMATION FOR SPEAKERS

Duration of oral reports:

Invited Lectures – 40-60 min (including discussion)

Plenary sessions – 45 min. (including discussion)

Scientific sessions – 20 min. (including discussion)

Sections' rooms will be equipped for **Multimedia presentations.**

Presentation of posters will be carried out online, on the MicrosiftTeams platform, a link will be sent. The volume of the poster is 1-2 slides. The content and editorial of the online poster is the same as that of the traditional poster. Posters will be displayed based on the order specified in the program. The authors briefly present the purpose and results of the work and answer questions from the audience.
Please send the posters in PDF format to the organizing committee no later than November 20 at 12 noon Eastern European Time (EET).

ARRIVAL

There are three means of most popular regular public transport in Lithuanian cities - buses, trolleybuses and minibuses. It is possible to buy the ticket at a driver. Bus No 18 and minibus No 56 arrives from city centre to conference venue at Vytautas Magnus University. Comprehensive information about arrival and tickets:

http://int.asu.lt/arrivtoLT.html

Arriving from airports:

After arrival to **Kaunas airport** you may transfer to Kaunas railway and bus stations by bus No 29 or go with taxi (price ca 20 EUR) to Kaunas downtown or directly to VMU campus. Timetables of public transport in Kaunas are available at
https://www.stops.lt/kaunas/#kaunas/en

After arrival to **Vilnius airport** to Vilnius railway and bus stations (same place) is possible by buses No 1, 2 and 4. Timetables of public transport in Vilnius are available at:
https://www.stops.lt/vilnius/#vilnius/en

Timetable of buses from Vilnius to Kaunas (buses every 20-30 min.) at:
http://www.autobusubilietai.lt/

Timetable of trains from Vilnius to Kaunas at *https://www.traukiniobilietas.lt/portal/en*

Other transport information:

University's campus map at:
http://int.asu.lt/tsenwhere.pdf

Touristic information of Kaunas:
http://visit.kaunas.lt/en/

https://www.vdu.lt/wp-content/uploads/2024/02/VMU-GUIDE-STAFF-WEEK-2024-002.pdf

Touristic information of Lithuania:
https://www.lithuania.travel/en/

CULTURAL PROGRAM

23 November 2024

BALTTRIB 2024 CULTURAL PROGRAME
TOUR IN THE MINOR LITHUANIA

1. **Excursion around Šilutė with a guide**

Šilokarčema (Heydekrug) was first mentioned in written sources in 1511. on February 22, when Klaipėda City Commissioner Michael von Schwabe granted Georg Talat the privilege to "keep an inn in the pine forest" (Heyde - "pine forest" + Krug - "inn") with fields, forests, cultivated soils, and the right to fish in the Curonian Lagoon.
How Šilutė grew, expanded, and changed over the centuries, how traces of Germans, French, and Lithuanians are reflected there - you will find out during the excursion.

2. **Excursion in the Hugo Scheu Museum in Šilute with a guide**

The history of the Šilutė Hugo Scheu Museum begins in the 19th century. In 1889 the old manor of Šilokarčema was bought by Hugo Scheu, a landlord from Klaipėda. Seeing how quickly due to the Industrial Revolution in the 19th century traditions and businesses disappeared, he started collecting ethnographic material of the Klaipėda region in two rooms of his manor house and collected folklore. During the Second World War, the manor museum formed by father and son Scheu, the collected antiquities, were left unattended when the heir to the manor, grandson Werner, left for Germany. The Manor and the Manor Museum suffered a lot from the Red Army staying here. The founder of the current museum is the municipality of Šilutė district.
Expositions in the museum: Hugo and Erich Scheu's archaeological collection, H. Scheu's nature exhibition, H. Scheu's ethnographic exhibition, souvenirs brought back by the landlord Scheu family from their travels, exhibition of dishes from Minor-Lithuanians.

3. **Excursion in the Mingė village with a guide**

The village of Mingė was first mentioned in written sources in 1540. The villagers' main business was fishing. The village is located in the picturesque Nemunas Delta Regional Park. It is unique because the river here represents a street. You cannot cross it so easily - there is no bridge. Residents go to the other shore by boat or water bike. For this reason and because of the beautiful scenery, the locals call the village of Mingė the little Venice of Lithuania.

4. **Educational lunch in Minor Lithuania style**

19th-century end-20th-century beginning dishes typical for the Minor Lithuania region are served. Minor-Lithuanian hodgepodge, kuchen, and caffia (acorn coffee). During lunch, you will learn about the traditional dishes of this region, their differences and similarities with Lithuanian, Samogitian, and German dishes, and, of course, you will have a hearty meal.

5. **The educational program at Urban Food**

URBANFOOD is a family production company engaged in drying and grinding Lithuanian berries, vegetables, and herbs in the small town of Dotnuva near Kėdainiai. This is the land of the owner‘s grandparents, on which, 40 years ago, the houses started to be built and were reborn as a small, cozy factory.
During the educational program, you will learn about ancient Lithuanian plants, valued in folk medicine, and you will get to know Lithuanian traditional crafts: drying, grinding, and distillation. You will be able to smell, taste, and feel the differences between fresh, dried, and ground products. Discover vibrant colors in foods, rich in nutrients, vitamins, and minerals.

VMU AA Campus Plan

1. Central Building (Faculty of Agronomy, Faculty of Forest Sciences and Ecology)
2. II Building (Faculty of Engineering)
3. III Building (Faculty of Bio economy Development, Faculty of Natural Sciences)
4. IV Building Conference BALTTRIB 2024 (Agricultural Science and Technology Park)
5. VI Building
6. VII Building (Institute of Forest Management and Forestry Institute)
7. VIII Building (Open Access Research Centre)
8. I Dormitory
9. II Dormitory
10. III Dormitory (Kindergarten-nursery)
11. IV Dormitory (Health Care Centre PSPC)
12. V Dormitory (Subdistrict administration)
13. VII Dormitory
14. Exhibition Pavilion No.1
15. Exhibition Pavilion No.2
16. Exhibition Pavilion No.3
17. Communication and Technology Transfer Centre