



MCMXXII
VYTAUTAS MAGNUS
UNIVERSITY



Lithuanian-Polish cooperation in the framework of BRANCHES

Prof. Dr. ALGIRDAS JASINSKAS
Vytautas Magnus University Agriculture Academy

Presentation of Vytautas Magnus University

| | | | | | | | | | |
|-----|-------------------------------------|---------------|--|---------|---|---------------------------|----------|---|----|
| 🏠 | About VMU | SUPPORT TO UA | Academic Subdivisions | Studies | Research | International Cooperation | Contacts | 🔍 | LT |
| MF | Faculty of Arts | GMF | Faculty of Natural Sciences | ŽŪA | Agriculture Academy | | | | |
| KTF | Faculty of Catholic Theology | PMDF | Faculty of Political Science and Diplomacy | AF | AA Faculty of Agronomy | | | | |
| EVF | Faculty of Economics and Management | SMF | Faculty of Social Sciences | BPF | AA Faculty of Bioeconomy Development | | | | |
| HMF | Faculty of Humanities | BS | Botanical Garden | MEF | AA Faculty of Forest Sciences and Ecology | | | | |
| IF | Faculty of Informatics | UKI | Institute of Foreign Languages | ŽŪIF | AA Faculty of Engineering | | | | |
| TF | Faculty of Law | ISI | Institute of Innovative Studies | | | | | | |
| MA | Music Academy | ŠA | Education Academy | | | | | | |

VMU University Structure

- 15 academic divisions: [10 faculties](#), [Agriculture Academy](#), [Education Academy](#), [VMU Botanical Garden](#), [Institute of Foreign Languages and Innovative Studies Institute](#)
- [9 departments](#) and [5 other subdivisions](#)
- [Students' Representative Council](#)
- [7 public enterprises founded by VMU](#)



**Vytautas Magnus University Agriculture Academy
Faculty of Engineering**



In 2015 was evaluated the Science and Education Monitoring and Analysis Center – Biosystems Engineering Unit. Now it consists from Faculty of Engineering, Laboratory of Environmental Technology Chemical and Biochemical Research. This Center is a leader in the field of Technological Sciences in Lithuania.

Faculty of Engineering

More than 300 students:

- *Three bachelor degree study programmes: Agricultural Mechanical Engineering, Smart Engineering, Water and Land Engineering (three specializations: Aquaculture Engineering, Hydraulics, and Land Management);*
- *Six master degree study programmes: Agricultural Mechanical Engineering, Agricultural Engineering and Management, Hydraulic Engineering, Transport Engineering, Sustainable Energy, Land Use Planning;*
- *Three doktorship schools in the science area of Technologies: Environmental Engineering, Mechanical Engineering, and Transport Engineering (about 30 PhD students).*

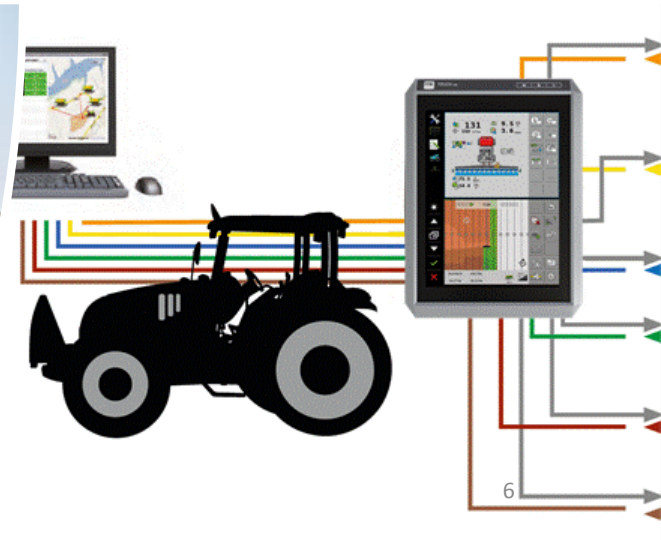
Teachers and researches staff - about 50 .

Main scientific activities:

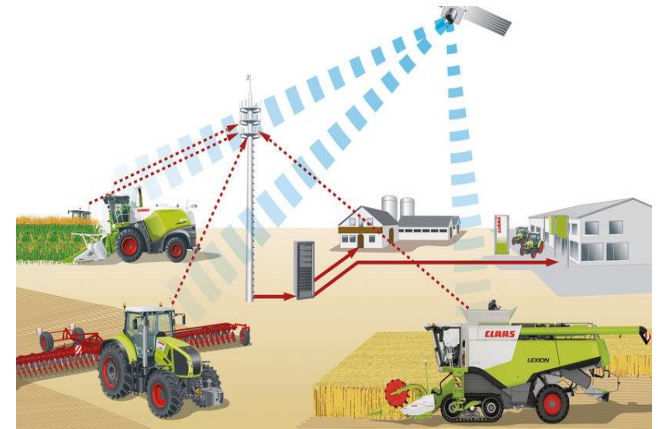
- environmentally friendly construction;
- innovative aquaculture technologies;
- smart soil and water engineering;
- smart agricultural and mobile machine systems;
- sustainable engineering systems, and mitigation of the effect on climate change;
- technologies of renewable energy resources and biomass engineering;
- tribological processes in mechanical and biological systems.



Study program:
**AGRICULTURAL
MECHANICAL
ENGINEERING**



Study program:
**SMART
ENGINEERING**



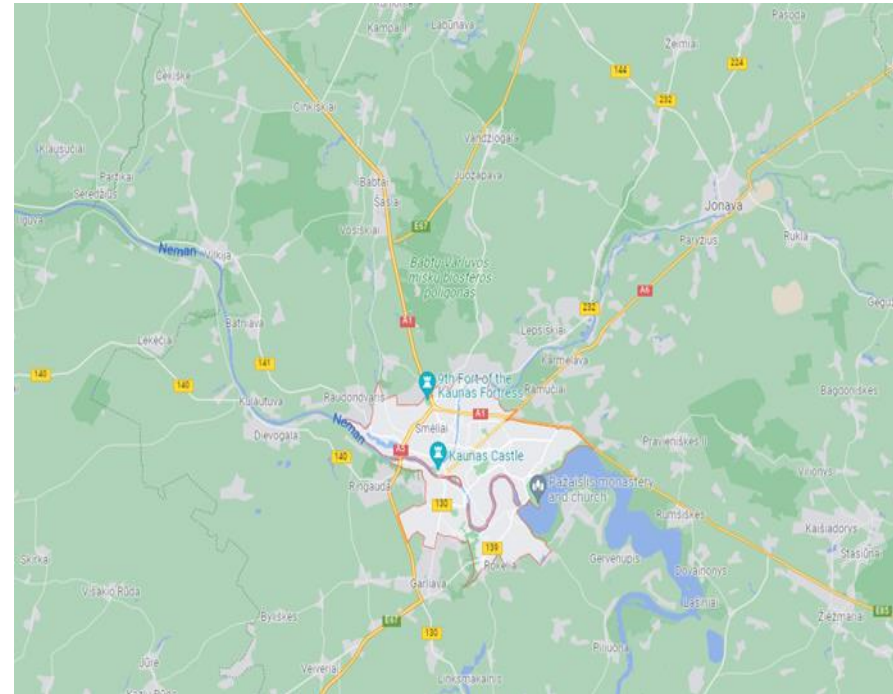
VMU is located in Kaunas and Kaunas District

- Kaunas - City in Lithuania
- Kaunas is a city in south-central Lithuania. At the confluence of the Neris and Nemunas rivers, Kaunas Castle is a medieval fortress housing historical exhibitions. Area: 157 km²
- Weather: 8°C, Wind NW at 3 m/s, 81% Humidity [weather.com](https://www.weather.com)
- Population: 295,269 (2016) United Nations

LITHUANIA



Kaunas and Kaunas District



Information about the Project H2020: BRANCHES_National Bioeconomy Network – Lithuania (NBN-LT)
This information can be found on the Vytautas Magnus University Agriculture Academy (VMU AA) website:
<https://zua.vdu.lt/en/faculties/faculty-of-agricultural-engineering/projects/national-bioeconomy-network-lithuania-nbn-lt/>

The screenshot shows a web browser window displaying the website of Vytautas Magnus University Agriculture Academy (VMU AA). The page is titled "National Bioeconomy Network – Lithuania (NBN-LT)". The header features the VMU logo and the text "Broader perspectives VYTAUTAS MAGNUS UNIVERSITY AGRICULTURE ACADEMY". The main content area includes a breadcrumb trail: "Homepage > Faculty of Agricultural Engineering > Projects > National Bioeconomy Network – Lithuania (NBN-LT)". The main heading is "National Bioeconomy Network – Lithuania (NBN-LT)". Below this, there are several sections of text: "Informacija apie projektą H2020: BRANCHES", "BRANCHES Consortium with Vytautas Magnus University Agriculture Academy", "10th International Scientific Conference 'RURAL DEVELOPMENT 2021: Challenges for Sustainable Bioeconomy and Climate Change'", "Conference topics", and "Registration in the section 7.1. Workshop. BRANCHES". On the right side, there is a sidebar menu for the "Faculty of Agricultural Engineering" with a list of links: "About the faculty", "Contacts", "Departments", "Journals", "Maecenas, sponsors, partners", "Projects", "Research laboratories", "Study programs (EN)", and "Study programs (RU)". A green button labeled "National Bioeconomy Network – Lithuania (NBN-LT)" is highlighted in the sidebar. The browser's address bar shows the URL "zua.vdu.lt/en/faculties/faculty-of-agricultural-engineering/projects/national-bioeconomy-network-lithuania-nbn-lt/". The Windows taskbar at the bottom shows the time as 09:46.

BRANCHES Consortium with Vytautas Magnus University Agriculture Academy

It was established the cooperation of the UWM research team represented by **Prof. Marek Marks** with **Prof. Dr. Algirdas Jasinskas** as one of Facilitators of H2020:BRANCHES for knowledge transfer to 3rd countries and the Coordinator of the Vytautas Magnus University contribution to the Project.

Cooperation between Consortium of BRANCHES and Vytautas Magnus University Agriculture Academy in the frame of the Project would cover following activities:

- Receiving and transferring information about BRANCHES to interested Lithuanian actors.
 - Cooperation in the field of a cross-border exchange of innovative practical knowledge for the mobilization of biomass and the integration of bioenergy solutions in rural environment.
 - Invitations to relevant workshops and show-case days
 - Reporting on the actions, which could be developed in Lithuania in connection with BRANCHES, especially your role as a national contact point for BRANCHES in Lithuania
 - Involving the target actors of the BRANCHES actions to ensure an appropriate impact of the knowledge transfer.
- The practical knowledge collected by BRANCHES can be relevant to the development of new initiatives on biomass supply and bioenergy generation in rural areas of Lithuania.

*Coordinator Johanna Routa,
Natural Resources Institute Finland*

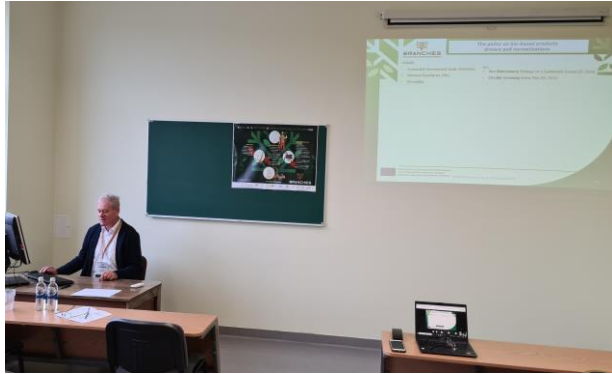
Presentations of project BRANCHES in the Conference of VMU AA

**The 10th International Scientific Conference
RURAL DEVELOPMENT 2021:
Challenges for Sustainable Bioeconomy and
Climate Change**
21-23 September, 2021

**Section 2. Biosystems Engineering and
Environment Integrity**

| 2.7.1 Workshop. BRANCHES: Boosting Rural Bioeconomy Networks – Lithuanian-Polish Network | |
|---|--|
| IN PERSON | |
| <u>Auditorium No. 514 Central building (Studentų str. 11, Akademija)</u> | |
| Chairperson prof. dr. Algirdas Jasinskas | |
| 8.30–8.45 | Welcome and introduction; Bioeconomy networking – presentation of project BRANCHES Algirdas Jasinskas¹, Johanna Routa² ¹ Vytautas Magnus University (Lithuania); ² LUKE (Finland) |
| 8.45–9.00 | Presentation of the Lithuanian and Polish regions represented in BRANCHES Algirdas Jasinskas¹, Jarosław Sarnowski², Tomasz Balicki² ¹ Vytautas Magnus University (Lithuania); ² Marshal Office of Warmia and Mazury (Poland) |
| 9.00–9.15 | Energy systems in rural areas in the light of recommendations of EIP-Agri Focus Group “Enhancing production and use of renewable energy on the farm” Janusz Gołaszewski¹, Algirdas Jasinskas², Marek Marks¹, Kinga Treder¹ ¹ University of Warmia and Mazury (Poland); ² Vytautas Magnus University (Lithuania) |
| 9.15-9.30 | BIOGAL the green biogas plant in Boleszyn Agnieszka Pyzel¹, Andrzej Galiński² ¹ The Warmia and Mazury Agricultural Advisory Center Located in Olsztyn (Poland); ² BIOGAL, Boleszyn (Poland) |
| 9.30-9.45 | Evaluation of preparation and use of multi-crop plants for solid biofuel Rita Petlickaitė^{1,2}, Algirdas Jasinskas², Kęstutis Romaneckas², Marius Praspaliauskas¹ ¹ Lithuanian Energy Institute (Lithuania); ² Vytautas Magnus University (Lithuania) |

Some photos of presentations in the Conference



ENERGY FORESTRY IN THE LITHUANIA'S DOMESTIC ENERGY SUPPLY (SHORT ROTATION PLANTS)



Willow plantation (manufacturer Kaunas AB “Zilvitis”, Sakiai District)



Fig. 6. 2.5 MW straw-fired HOB installation in Akademija town.

2.5 MW chopped wood fired installation in Akademija town (Kaunas reg.).

Transportation of chips



Implements for chips supply to the boiler



Boiler in Babtai (Kaunas region) (capacity 2 MW)



Chips unloading and storing



Chips transportation



Chips quality control



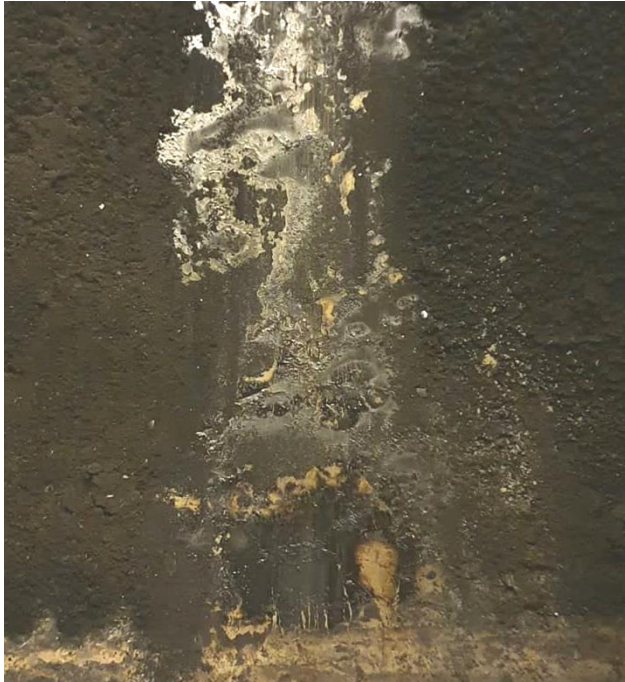
The works of our scientists in growing and processing into solid biofuels various herbaceous plants and agricultural plant waste. Utilization of granulated biofuel.



Exposition of biofuel pellets in the exhibition "What to sow in 2022"

Use of potato waste for biofuels

Studies are being carried out to determine the effects of soot on the incineration of biofuel briquettes made from potato waste: soot that accumulates on the surface of incinerators softens and removes it more easily



Before briquette burning



After briquette burning

Prof. Algirdas Jasinskas and prof. Kęstutis Romaneckas are the Guest Editors of some MDPI Journals, Special Issues

More information about Good practices of Lithuanian agriculture and bioeconomy will be presented by prof. Kęstutis Romaneckas



an Open Access Journal by MDPI

IMPACT
FACTOR
2.259

Multi-Functional Cultivation of Crops

Guest Editor:

Prof. Kęstutis Romaneckas
Institute of Agroecosystems and
Soil Sciences, Vytautas Magnus
University, Agriculture Academy,
K. Donelaičio str. 58, 44248
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Message from the Guest Editor

Dear Colleagues,

Multi-functional crop cultivations may enlarge the productivity of the biomass, protect against the spread of weeds, diseases, and pests, stabilize and restore soil fertility, improve the nutritional and energy efficacy of the harvest or raw biomass production. In this Special Issue, research papers, communications, and review articles are all welcome. Special Issue will highlight the agro-technological design (sowing methods, seed rate and distribution, fertilization methods and rate, harvesting methods, etc.) of multi-functional cultivations, the selection and combination of crop species, allelopathy, and their concurrence with each other and weeds or pests. Attention will also be paid to studies addressing the impact of inter-cropping on soil properties, nutrient leaching or runoff, GHG emissions, and the development, quantity, and quality of main production and biomass. Research data on multi-functional biomass processing for energy purposes (e.g., solid bio-fuel) are also welcome.

Prof. Kęstutis Romaneckas
Guest Editor

Deadline for manuscript
submissions:
30 June 2021



mdpi.com/si/50139

Special Issue



Article

Investigation of Pressed Solid Biofuel Produced from Multi-Crop Biomass

Rita Petlickaitė ^{1,*}, Algirdas Jasinskas ², Ramūnas Mieliažys ², Kęstutis Romaneckas ³,
Marius Praspaliauskas ¹ and Jovita Balandaitė ³



Article

Short-Term Impact of Multi-Cropping on Some Soil Physical Properties and Respiration

Kęstutis Romaneckas ^{1,*}, Jovita Balandaitė ¹, Aušra Sinkevičienė ¹, Rasa Kimbirauskienė ¹,
Algirdas Jasinskas ², Ugnius Ginelevičius ¹, Andrius Romaneckas ¹ and Rita Petlickaitė ²

Special Issue "Energy and Environmental Evaluation of Biofuel and Forage Processing and Utilization Technologies"

- Print Special Issue Flyer
- Special Issue Editors
- Special Issue Information
- Keywords
- Published Papers



A special issue of *Sustainability* (ISSN 2071-1050). This special issue belongs to the section "Energy Sustainability".

Deadline for manuscript submissions: **closed (15 December 2021)**.

Share This Special Issue



Special Issue Editor

Prof. Dr. Algirdas Jasinskas E-Mail Website SciProfiles
Guest Editor

Department of Agricultural Engineering and Safety, Faculty of Engineering, Vytautas Magnus University Agriculture Academy, Studentu 15A, LT-53362 Akademija, Kaunas r., Lithuania
Interests: Renewable and sustainable energy, energy plants; agrobiomass and residues; woody biomass; solid biofuels; pressed biomass; biofuel properties; burning; harmful emissions; evaluation of technologies
Special Issues, Collections and Topics in MDPI journals



Thank you for your attention!

