



since 1921

DAUGAVPILS UNIVERSITY RIGA TECHNICAL UNIVERSITY LATVIA



Expertise offered:

Optimization of fluid mechanics and heat transfer in pipeline systems

Keywords: development of mathematical models, algorithms and software for engineering processing involving mass and heat transfers.

Market addressed: biomass combustion for heat and energy production; chemical processing; industrial engineering.

ABOUT US

Researchers from Riga Technical University and Daugavpils University in Latvia work together on analysis of complex dynamical systems in fluid mechanics and heat transfer.

More information about our work on this topic: <https://de.du.lv/lzp2021/en.htm>



Students 4



Research team 13



Publications 15



Conferences 30



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WHY IS IT IMPORTANT?

The development and the use of mathematical models, algorithms and computer software enables a **better understanding of different types of unsteady (nonlinear) phenomena with broad range of applications in fluid mechanics and heat transfer** (e.g. biomass burning, steel quenching). Improvement of thermal conversion process for green energy production is achieved by optimizing the relevant processing factors.

ADVANTAGES AND INNOVATION

Mathematical models describing physical processes – instead of physical experiments requiring a lot of time and resources. **Optimization of resources in processes** where fluid and/or heat transfers occur, determination of the biomass burning rate and intensity.

STAGE OF DEVELOPMENT

Mathematical models, algorithms and computer programs **can be used for nonlinear boundary problems and to identify factors affecting the biomass burning process to optimize the process.**

WE ARE LOOKING FOR PARTNERS AND COLLABORATIONS

- R&D cooperation agreement; R&D project
- Feasibility study
- Development of pilot plant

We would like to join a consortium for a call: [HORIZON-CL5-2024-D3-02-03](#)

Development of smart concepts of integrated energy driven bio-refineries for co-production of advanced biofuels, bio-chemicals and biomaterials

CONTACT US

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