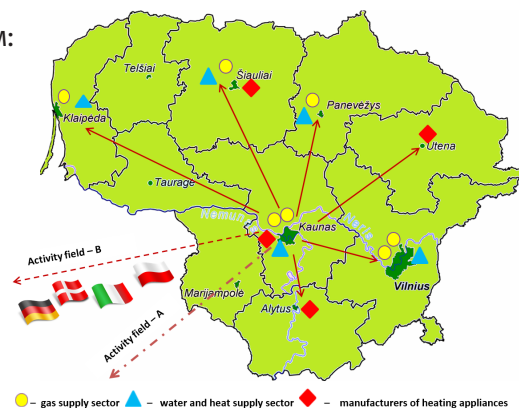




## Accredited & notified services

### ACCREDITED EN ISO/IEC 17025 TO PERFORM:

- calibration of measuring instruments for liquids and gas flows;
- testing water and thermal energy meters, heating appliances, solid biofuel and solid recovered fuel.



### ACCREDITED EN ISO/IEC 17020 AS THE TYPE A INSPECTION BODY TO PERFORM:

- room heating appliances fired by solid fuel against European Parliament and Council Regulation (EU) No. 305/2011;
- water and heat meters (B, F and D modules), and measuring systems of liquids (other than water)(F module) against European Parliament and Council Directive 2014/32/EU.

### NOTIFIED (ID. NO. 1621) FOR CONFORMITY ASSESSMENT OF:

- conformity assessment of measuring instrument for liquid and gas flows;
- heating appliances and boilers fired by solid and gaseous fuels.

## FLUID DYNAMICS AND HEAT TRANSFER RESEARCH

LABORATORY OF HEAT-EQUIPMENT  
RESEARCH AND TESTING

## Scope of research

### PROCESSES AND TECHNOLOGIES FOR THE EFFICIENT USE OF R.E.S. AND REDUCTION OF ENVIRONMENTAL POLLUTION

- PHYSICAL AND THERMAL PROPERTIES OF SOLID BIOMASS AND RECOVERED FUEL;
- FUEL PREPARATION METHODS AND TECHNOLOGIES;
- THERMAL CONVERSION PROCESSES (COMBUSTION, GASIFICATION) OF SOLID FUEL;
- EMISSION FORMATION PROCESSES IN HEATING APPLIANCES;
- EFFICIENCY OF LOW CAPACITY BOILERS AND HEATING APPLIANCES FIRED BY SOLID FUEL.

### THERMAL PHYSICS, FLUID MECHANICS AND METROLOGY

- FLOWS MIXING IN CHAMBERS OF LIMITED DIMENSIONS AND VARIOUS GEOMETRY;
- PERMEABILITY OF GAS MIXTURES CONSISTING OF COMBUSTIBLE AND NON-COMBUSTIBLE COMPONENTS THROUGH MEMBRANES;
- PARTICULATE EMISSION REDUCTION;
- FLOW DYNAMICS IN MICROCHANNEL WITH STRUCTURED WALLS;
- MAINTAINING FOUR NATIONAL FLOW STANDARDS AND MEASUREMENT TRACEABILITY ASSURANCE.



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### HEAD OF LABORATORY:

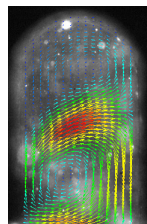
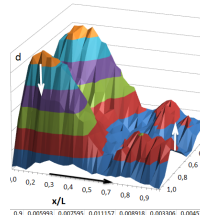
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# Tools and capabilities

FOR SCIENTIFIC RESEARCH AND DEVELOPMENT

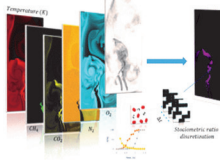
## SET OF MODERN EXPERIMENTAL FACILITIES AND MEASURING INSTRUMENTS FOR INVESTIGATION OF:

- efficiency of small (up to 500 kW) space heating appliances fired by solid biofuel;
- reducing gaseous and particulate matter emission by implementation of precipitation devices;
- composition of biomass and various solid fuels as well as their physico-chemical properties;
- liquid and gas flow dynamics in channels and chambers at the various inlet and boundary conditions, flow regime and its instability, physical properties variation;
- inner flow structure of separated flow or flow in cavities situated in microchannel walls by using particle image velocimetry methods and macro/microPIV systems for flow visualization;
- permeability of membranes and its use for separation of disadvantageous components from gas mixture.



## CFD APPLICATION FOR NUMERICAL SIMULATION OF:

- flow dynamics analysis using software package ANSYS® Fluent®
- mixing of combustibles species and oxygen to enhance combustion process in furnace;
- qualitative and quantitative streams mixing and flow homogeneity control with application of image analysis.



## OUR EXPERTISE FOR IMPLEMENTATION OF INNOVATIVE PROJECTS AND SERVICES

- Assurance of traceability of liquid, gas and heat supply and consumption measurement on national and international levels.
- Conformity assessment of measuring instruments and heat appliances before placing on the market or entry into service, or being in service.
- Fluid dynamics under the influence of flow disturbances and flow regimes.

## JOINT RESEARCH AND IMPLEMENTATION PROJECTS

- Investigation of thermal decomposition of local solid biofuel for development of efficient and environmentally friendly technologies (BIOKONVERS) ATE-12005.
- Research of thermal decomposition processes of sewage sludge from water treatment plants (INODUMTECH)VP1-3.1-MES-10-V-02-009.
- Research of features of different types solid biofuels derived from agricultural waste and recycling products and its applications in small-and medium-power heating systems (AGROBIOATENA) VP1-3.1-MES-10-V-02-011.
- Gas composition control in transmission system of JSC "Lithuanian gas" in relation with the construction of the LNG terminal. Feasibility Study.
- INTEREG BSR project. Baltic Energy Areas – A Planning Perspective (BEA-APP).

## MEMBERSHIP IN INTERNATIONAL ORGANIZATIONS

## LABORATORY PARTNERS AND CUSTOMERS

