



POLISH NATIONAL AGENCY
FOR ACADEMIC EXCHANGE



STER
PROGRAMME

<p>name of the unit:</p> <h2 style="text-align: center;">LabNOISE Laboratory</h2> <p style="text-align: center;">Division of Ecotechnics, Institute of Marketing and Sustainable Development</p>		<p>symbol:</p> <h2 style="text-align: center;">I-83</h2> <p>https://woiz.p.lodz.pl/ksztalcenie/laboratorium-labnoise/</p>
<p>head of the unit:</p> <p style="text-align: center;">Przemysław Kubiak, PhD. DSc. TUL prof.</p>	<p>potential promoters:</p> <p style="text-align: center;">Przemysław Kubiak, PhD. DSc. TUL prof.</p>	<p>contact person:</p> <p style="text-align: center;">Joanna Kopania, PhD phone: 48-42-631-36-90 joanna.kopania@p.lodz.pl</p>
<p>scope of activities:</p> <p>The main areas of interest and research directions are the following problems falling within the general concept of Mechanical Engineering:</p> <ul style="list-style-type: none"> • standardized measurements of environmental noise emission (traffic and industrial), the noise of machines and devices and also the noise at workplaces, in accordance with an accreditation No. PCA 1660; • acoustic analysis, measurement and development of noise abatement structures based on the plastic and absorption materials; • acoustic analysis of technical installations in buildings (ventilation and air conditioning systems) with noise reduction concepts; • sound propagation modelling in the environment, acoustic-flow simulations of ventilation and air-conditioning systems, coupling LCA analysis and noise factors. 		   
<p>present activities:</p> <p>The current activities of the LabNOISE and aides concerns:</p> <ul style="list-style-type: none"> • acoustic analysis at flow field in air-vent systems (grilles, regulators, dampers) and the reduction of flow noise; • acoustic analysis of plastic panels as single or layer structures, also with absorption materials or absorption-resonance systems. <p>The another aspect of laboratory research is the environmental noise, e.g. identification of acoustic hazards in the urban space, linking Life Cycle Assessment (LCA) with noise from industrial installations, defining health indicators in the field of environmental noise impact.</p>		
<p>future activities:</p> <p>Development of current research in acoustic simulation and generation of new research in ambisonics field.</p>		



POLISH NATIONAL AGENCY
FOR ACADEMIC EXCHANGE



STER
PROGRAMME

[publications/patents, awards, projects:](#)

- Marcinkowski A., Kopania J., 2021. "Environmental Performance of Noise Reduction System in Cogeneration Plants – A Life Cycle Assessment Study," *Energies*, MDPI, Open Access Journal, vol. 14(5), pages 1-19, March.
- Marcinkowski A., Gralewski J., The comparison of the environmental impact of steel and vinyl sheet piling: life cycle assessment study, *International Journal of Environmental Science and Technology*, ISSN 1735-1472, vol 17, no. 9, 2020, p. 4019-4030
- Bogusławski G., Kopania J., Gaj P., Wójciak K.: Determination of sound power level by using aspherical microphone array and conventional methods, *Vibrations in Physical Systems*, Volume 30, No. 1, 2019, 2019139
- Galińska B., Kopania J., Organizacyjne i techniczne metody redukcji hałasu komunikacyjnego w przestrzeni miejskiej, *Autobusy* 6/2017, s.163-167, ISBN 1509-5878

[keywords:](#)

acoustics, environmental noise, LCA and noise, flow noise, soundproofing materials

[list of internship proposal in this research team:](#)

- Co-operation in the acoustic analysis and noise reduction concepts