

Lighting Technology Division is a scientific unit of the Electric Power Engineering Institute, at the Faculty of Electrical Engineering of the **Warsaw University of Technology**. Research, expertise activities and education are conducted by a team of eleven people and a group of PhD students. The Division is located in the heart of Warsaw, in the University's main campus (walking distance from the Central Railway Station and 30 min by bus from the Chopin's Airport). The main Division's activities include the issues of light sources, their supply and control, luminaires, interior, road and exterior lighting, multimedia in lighting, electroheating and energy conversion. The potential of the Division includes space for research and education: lecture halls, seminar and computer rooms, laboratories (photometry and colorimetry, electrical measurements, computer simulation in lighting, multimedia technology, electroheating technology, energy conversion), various measurement equipment: laboratory and portable, and licensed software: e.g. AutoCAD, Inventor, 3D Studio Max, SolidWorks, Photopia, Statistica, Dialux, Relux.

Research – selected activities

1. Investigating lighting conditions and lighting impact on users for interiors in buildings, roads and exteriors including floodlighting.
2. Investigating energy and economic efficiency of lighting solutions for interior, road, exterior and floodlighting applications.
3. Development of algorithms for photometric calculations and optimisation methods for luminaires.
4. Elaboration of luminance models for light sources and luminaires.
5. New solutions for luminaire optical systems and lighting systems.
6. Investigating lighting for different applications using Virtual Reality.
7. Development of luminance distribution measurements for different applications considering glare evaluation.
8. Elaboration of a new method of dynamic luminance distribution formation for real objects.
9. Elaboration of new type of induction heater, basing on multi - microcontroller structure for optimal heating conditions.
10. Elaboration of modeling procedure of partial discharge phenomena for extending the life of food products.

Expertise – basic offer

1. Measurements of lighting parameters for building interiors, exteriors and roads, including illuminance and luminance measurements.
2. Verification and analysis of lighting conditions for building interiors, exteriors and roads.
3. Evaluation of energy efficiency of lighting solutions for building interiors, exterior objects and roads.
4. Computer simulation and lighting visualisation for different applications.
5. Lighting design for building interiors, exterior objects and roads.
6. Testing light sources and luminaires.
7. Designing optical systems of luminaires.
8. Laboratory measurements of photometric and colorimetric parameters.
9. Designing of heating devices and temperature measuring and control systems, especially for resistance and induction heating systems.
10. Designing of heat dissipation systems for different devices.

Lighting Technology Division
Warsaw University of Technology
Institute of Electric Power Engineering
75 Koszykowa street
00-662 Warsaw, Poland
tel.: +48 22-234-75-05

Piotr Pracki DSc, PhD
Head of Lighting Technology Division
piotr.pracki@ien.pw.edu.pl
tel.: +48 22-234-75-63

webpage: https://www.zts.pw.edu.pl/zts_en