

Scientific supervisor	
Name	Paweł Dąbczyński
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Department	Advanced Materials Engineering
Laboratory	Macromolecular Nanofilms Laboratory
Group webpage	
Proponowany temat badań	
<i>Preparation and characterization of perovskite solar cells</i>	
Krótki opis (< 1000 znaków)	
<p>Perovskite solar cells are one of the most promising photovoltaic systems. The purpose of the internship will be to introduce the student with the fabrication and characterization of solar cells based on metal-halide perovskite (MHP) materials. During the internship, the student's task will be to construct a model MHP system, methylamino lead iodide as the active layer of the solar cell, and to study the effect of changing the iodide anion on other halide ions. Characterization of the device will include: determination of the basic parameters of device operation under standardized measurement conditions and analysis of the physicochemical properties of the obtained device including: morphology, chemical composition and optical properties. An additional task for the student will be to optimize the device fabrication process toward maximizing cell performance.</p>	
Główne narzędzia badawcze	
System for current-voltage characterization of solar cells, atomic force microscopy, fluorescence microscopy, secondary ion mass spectrometry, UV-VIS spectroscopy	
Additional requirements to the candidate	
Basic experience in laboratory	
Possibility to continue student internship in the form of:	
Diploma thesis (master's or bachelor's degree)	X
PhD study	