

Scientific supervisor	
Name	Dr hab. Bartosz Such
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Department	Zakład Fizyki Nanostuktur i Nanotechnologii
Laboratory	Pracownia Badania Powierzchni Tlenków
Group webpage	http://zfnin.if.uj.edu.pl/pl/sites_groups/group_oxides.html
Proposed research topic <i>Molecules on oxide surfaces</i>	
Short description (< 1000 characters) <p>The goal of the internship is to explore the details of the process of preparation of ultra-thin molecular layers on oxide surfaces, as well as to learn the basic experimental techniques with the focus on scanning tunneling microscopy (STM). The issue of the morphology on organic adsorbates is crucial in many applications, such as dye- sensitized solar cells.</p> <p>During the internship, the candidate will have the chance to learn the rules of conducting experiments in ultra-high vacuum (UHV), as well as to understand the problems connected with the achieving low pressures. The candidate will also learn the preparation methods of atomically-clean substrates and how to use create a molecular layer with the use of molecular beam epitaxy. The STM microscope and thermally programmed desorption TPD will be the main experimental tool used for examination of created layers</p>	
Main research tool <p>STM microscope, thermally programmed desorption TPD, system for substrate preparation and layer formation</p>	
Additional requirements to the candidate <p>- interest in experimental techniques - good English will be an advantage</p>	
Possibility to continue student internship in the form of:	
Diploma thesis (master's or bachelor's degree)	X
PhD study	X