

# Vladyslav Matkivskyi

- Highly accomplished and results-driven PhD with expertise in semiconductor materials and solar cell fabrication. Seeking an exciting position in the semiconductor industry to apply my extensive experience and skills in developing innovative solutions and driving advancements in solar cell technologies.

## WORK EXPERIENCE

**PhD Research Fellow, Norwegian University of Science and Technology (NTNU), Trondheim, Norway (2019-2023).**

- ✓ Developed and published novel methods for surface analysis of multi-crystalline silicon.
- ✓ Successfully applied metal-assisted chemical etching (MACE) to mc- and mono-crystalline silicon, discovering different morphology types.
- ✓ Engineered titanium oxide (TiOx) passivation for crystalline silicon (c-Si) solar cells using atomic layer deposition (ALD).
- ✓ Published four studies on surface treatment for solar cells, contributing to the advancement of solar cell fabrication processes.

**Research Assistant, Korean Institute of Science and Technology (KIST), Seoul, Republic of Korea (2016-2019).**

- ✓ Designed and implemented carrier selective contacts using e-beam deposited TiOx for solar cells.
- ✓ Improved chemical texturing process for single-crystalline silicon (Si) wafers, enhancing surface properties.
- ✓ Gained extensive experience in transparent conducting oxides deposition and analysis.
- ✓ Contributed to the production of full solar cell modules, demonstrating a comprehensive understanding of the fabrication process.

## LICENCES AND CERTIFICATIONS

Product Development using AutoCAD – June 2022

- Photovoltaics Systems – June 2022
- Solar Energy Systems Overview – June 2022
- Matlab programming – June 2023
- HF-course (Flussyrekurs) – November 2020

## EDUCATION

PhD in Material Science and Engineering, NTNU, Trondheim, Norway 2019-2023

NTUU “KPI”, Kyiv, Ukraine.  
Electronic Engineering Department  
**Master’s** degree in „Micro- and nanoelectronics” 2015-2017

NTUU “KPI”, Kyiv, Ukraine.  
Electronic Engineering Department  
**Bachelor’s** degree in „Micro- and nanoelectronics” 2011-2015

## SKILLS

- ❖ Semiconductor materials: ALD deposition, e-beam vacuum deposition, thermal evaporation.
- ❖ Surface analysis techniques: AFM, SEM, WLI
- ❖ 4p. probe measurements, probe station, conductive AFM.
- ❖ Work with acids, MACE, c-Si surface treatment.
- ❖ Proficient in working in a "clean room" environment.
- ❖ Engineering and simulation software proficiency.
- ❖ Strong problem-solving and analytical skills.

## PUBLICATIONS AND CONFERENCES

[RESEARCHGATE](#)

## CONTACT INFO

## LANGUAGES

- Ukrainian (native)
- Russian (native)
- English (full professional proficiency)
- Norwegian (elementary proficiency)