Nikoleta Kyranaki

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My name is Nikoleta Kyranaki and I investigate the physics of failure of PV modules, more specifically the behaviour and impact of corrosion of different components of a PV cell. Before my PhD, related to the Solar-Train project, I obtained a bachelor's degree in Physics and a master's degree in Environmental Physics at the University of Patras in Greece. During my master's studies I was working as a laboratory assistant, teaching undergraduate students about the operation of PV modules and thermal collectors.

Of course, being a researcher is not an easy job, as many difficulties could arise. However, being part of an MSCA project was very helpful. Easier access to equipment not available at the host institution and knowledge contribution by other ESRs and project supervisors provided a lot of help.

Solar-Train gave me the opportunity to present my work at workshops (e.g. SOPHIA Workshop) and conferences (e.g. EU-PVSEC). Moreover, my host institution gave me the chance to show my results by oral presentation at the national UK PV conference (PVSAT) and within the University, where I received the prize for the best paper and oral presentation. A journal publication is planned as well.

Testing solar cells during a summer school workshop in Ljubljana

The key results of my work are:

- Development of a novel method for qualification of the presence of moisture within a PV module.
- Development of a more accurate method for the quantification of moisture content within a PV module.
- Identification of the different corrosion mechanisms of a PV cell and their impact on the electrical performance, for artificially and naturally aged PV modules.

Contrary to popular belief, a PhD is not only intellectually difficult, but also calls for discipline and stamina. The discipline was already part of my personality. However, specific tips from my supervisors and some courses provided by my host institution helped me to build the stamina needed. In the future, I would like to see myself working as a researcher for a research institute or a company, closer to the actual needs of the field. Developing more sustainable and durable PV modules is very important for the achievement of the goal towards a better environment.

My Solar-Train story

"Collaboration and knowledge exchange are the key factors for successful research."

Being part of Solar-Train was a very good experience for me, as it gave me the opportunity to travel around Europe for the first time in my life. Meeting the Europe PV experts in person was a significant source of knowledge which has been very helpful for the progress of my research. Finally, a great collaboration with 13 ESRs, working together towards the same goal, was very important for the achievement of very good research outcome.

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