



**L-Università  
ta' Malta**

**Research Support  
Services Directorate**

University of Malta  
Msida MSD 2080, Malta

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[www.um.edu.mt](http://www.um.edu.mt)

**Call for Expression of Interest  
Marie Skłodowska-Curie Individual Fellowship  
([H2020-MSCA- IF-2018](#))**

The University of Malta (UM) is keen to host Marie Skłodowska-Curie Action fellows to work in its research teams and welcomes expressions of interest from excellent post-doctoral researchers to apply for the Individual Fellowship Scheme.

MSCA fellowships can be used by researchers who wish to relocate to Malta for a period between 12 and 24 months. Successful applicants will be able to start their fellowships between 1st March 2019 and 1st September 2020.

The funding covers:

- living and mobility allowance
- family allowance for fellows with spouses or dependent children
- research, training and networking costs
- management and indirect costs.

**University of Malta**

Lying at the cross-roads of the Mediterranean, UM has been, over its [400-year history](#), the hub for international academic exchange on the island. UM is the leading higher education institution in Malta and its structures are in line with the [Bologna Process](#) and the European Higher Education area. The University seeks to carry out [academic research](#) and provide a vibrant higher education setting in the arts, sciences and the humanities as required for Malta's economic, social and cultural development. The [courses](#) at UM are designed to produce highly-qualified professionals in multiple disciplines. The UM [alumni](#) community is growing exponentially: well over 3,500 students graduate in various disciplines annually. The language of instruction is English and about twelve per cent of the student population is international. Today UM is composed of [fourteen faculties](#), a number of interdisciplinary [institutes](#) and [centres](#), three [schools](#) and a [junior college](#). Besides the main campus, situated at [Msida](#), there are three other campuses: [Valletta](#), [Marsaxlokk](#), [Gozo](#).

**The Department of Industrial Electrical Power Conversion**

The [Department of Industrial Electrical Power Conversion](#), IEPC, forms part of the [Faculty of Engineering](#) at the University of Malta. IEPC has been at the forefront of research and lecturing in the following areas of electrical engineering: Power Electronics and Distributed Generation; Power

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Systems and Grid Integration of Renewable Energy Sources (RES); Electrical Machines and Drives; and Electrical Transport Systems. The Department strives to achieve excellence in these areas by its contributions to lecturing, research and innovation in collaboration with both local and international partners and academic/research institutions.

**Research project**

Keywords: Power Electronics Converter, Wireless Power Transfer, Electric Vehicles, Electrical Power Systems, Green Transport System, Traffic Simulation

This research project shall carry out a feasibility study of implementing wireless charging lanes for electric vehicles into the Maltese islands road infrastructure.

In the initial stage, data about the traffic situation shall be analysed and simulations shall be carried out to investigate how a wireless charging system should be installed in order to achieve an optimum in performance and cost. The result of the research shall be a detailed requirement for a charging lane installation in Malta. What length and width are required? How many cars would be on the lane at the same time? What power electric supply is required? How much electric power is needed at different times of the day?

In the next stage, a wireless electric vehicle charging system, with a power electronics converter and wireless power transmission loops, shall be designed and implemented. This will include the hardware and software design of the converter.

In the final stage, a field test shall be carried out with the wireless charging system installed in a road section. The performance of the system under real operation condition shall be evaluated. Data shall be collected and used to update the feasibility study and prepare a proposal for a countrywide installation of wireless charging lanes.

**Eligibility**

Interested applicants must:

- have a PhD or the equivalent research experience
- not have lived in Malta for more than 12 months in the last 36 months up to 12th September 2018.



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Interested applicants are invited to send a cover letter and CV to [Reiko.Raute@um.edu.mt](mailto:Reiko.Raute@um.edu.mt) with “MSCA-IF + <candidate’s name>” in the email subject by **15th July 2018**.

Selected candidates will receive dedicated support from the supervisor, **Dr Ing. Reiko Raute**, and the [Research Support Services Directorate](#) to write a successful proposal.

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