



L-Università
ta' Malta

Human Resources
Management &
Development Office

University of Malta
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Call for Applications

Post/s of Full Time or Part Time Research Support Officer I or II

Department of Industrial Electrical Power Conversion
Faculty of Engineering

1. The Department requires a Research Support Officer to work on a University funded research project: 'Electrical Energy System Optimisation for the More Electric Aircraft'.
2. The applicants must be in possession of a degree in Electrical Engineering, have experience in the area of Power Electronics & Electrical Machine Drives and have good working knowledge of Matlab/Simulink. A Postgraduate Degree in a relevant area will be considered an asset.
3. This post will be for a definite period of 1 year with the possibility of extension. The selected candidate will be expected to work 40 hours per week on a full time basis. Employment on a part-time basis may also be considered, however preference will be given to those available to work on a full time basis. The Research Support Officer will be remunerated according to his/her degree qualification as follows:

Bachelor's degree (Research Support Officer I) at Eur 20,800 p.a.

Master's degree (Research Support Officer II) at Eur 24,960 p.a.

4. Candidates must submit their letter of application, a copy of their *curriculum vitae* and a copy of their certificates and transcripts to projects.hrmd@um.edu.mt by not later than **Saturday, 10th March 2018**.

Late applications will not be considered.

5. Further information may be obtained from the Office for Human Resources Management & Development or from the website: <http://www.um.edu.mt/hrmd/vacancies>.

Office of the University
Msida, 17th February 2018

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Further Information

1. Recent advances in power electronics applied to commercial aircraft technology (e.g. Airbus A380 and Boeing 787) brought about an increase in aircraft electrical systems (actuation, wing ice protection, environmental control and fuel pumping). The study in this project shall focus on the simulation of a More Electric Aircraft (MEA) power system to determine the optimal configuration in power generation, distribution (energy management) and end use. The research shall model both the generation systems and the electrical loads (power converters and electrical machines) and shall look into AC and/or DC distributed power systems or a hybrid combination allowing for flexible system reconfiguration aimed at achieving efficient operation. The study shall also look at different flight mission scenarios for stable and efficient operation throughout the flight.
2. The appointee shall be required to:
 - A. Develop the following MEA models in Matlab/Simulink including: Electrical Power Generation: Electrical Loads (power converters, motors, electrical actuators, pumping, ECS, de-icing, etc.): Flight Mission Considerations (Take off, cruising, landing). The aim shall be to develop a complete MEA System Simulation including Generation, Distribution and Electrical Equipment Network. The simulation can possibly look at both AC and DC Distribution Systems (including Hybrid) and shall take power quality issues into consideration.
 - B. Carry out simulations and research with the aim to optimise the Power System Operation for various scenarios and establish which power conversion topologies and combinations achieve the most efficient and flexible system for all modes of flight operation.
 - C. Design and construct a laboratory based scaled down version of MEA Electrical System for implementation of control algorithms.
 - D. Carry out research and write research/technical publications for conferences/journals.
 - E. Attend technical conferences/workshops, locally or abroad, as required.
 - F. Carry out any other project related tasks as instructed by the Project Coordinator
3. The appointee is expected to work:
 - a. on a full-time basis (however part-time basis may also be considered); and
 - b. at such places and during such hours as may be determined by the University authorities.

4. The selection procedure will involve:
 - a. scrutiny of qualifications and experience claimed and supported by testimonials and/or certificates (copies to be included with the application); and
 - b. an interview and / or extended interview.

5. The appointment will be subject to a probationary period of 6 months, and to the provisions of the Statutes, Regulations and Bye-Laws of the University which are now or which may hereafter be in force.

Office of the University
Msida, 17th February 2018