



Call for candidates for a doctoral position at GEP

REF. : G2211

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Deadline: 21 March 2022

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Research Activities: Solar and Renewable Energies

Candidate: PhD Student in the development of new predictive methods of maintenance for CSP plants

Location: Benguerir

Duration: 36 months

Eligibility : Be enrolled in a doctoral thesis at a National University

DESCRIPTION

We, the thermal department team within the Green Energy Park research platform, are looking for a motivated engineer/data scientist (or similar) for a PhD thesis to develop new predictive methods of maintenance for CSP plants. The O&M costs of the solar field are very important and significant in relation to the total plant operational costs. Our aim is to optimize the O&M costs by developing new inspection and fault detection methods based on real-time monitoring of solar components, artificial intelligence, and embedded systems for early detection of anomalies and degradation forms.

Your tasks will be:

- Review and classify the main techniques and methods used for quality control of solar components;
- Understanding, Monitoring and data collection of the main anomalies that may occur in CSP plants (Soiling, Thermal losses, Optical errors, and others);
- Develop new methods for early detection and monitoring of anomalies and degradation forms of CSP components;
- Develop Site-Specific O&M strategies;
- Help with the validation and implementation of other projects within the thermal team;
- Publish research results and present them at conferences, workshops, etc.;
- Participate in the organization of national and international events organized by GEP.

REQUIREMENTS

- Be enrolled in a doctoral thesis at a National University;
- Skills in electrical engineering and applied mathematics;



- Good knowledge of programming languages (Matlab, Python or similar);
- Experience in modelling and numerical simulation, in particular image processing and artificial intelligence modelling;
- Experience in experimental work with topics such as data acquisition, experimental design, and data analysis;
- Good analytical, synthesis, innovation and communication skills;
- Strong interest in interdisciplinary research.

The candidate should send the following documents to contact@greenenergypark.ma ; elydrissi@greenenergypark.ma by specifying the offer Ref in the email subject.

- A curriculum vita;
- Copies of university degrees (doctorate registration certificate);
- A research proposal linked to the project description and to one of the issue areas of the call (2000 words, containing an explanation of topic, Scientific background of candidate, Methodology for completion of research proposal);
- Letter of recommendation by a professor.