

2 Open Positions: Research Engineer at Masdar Institute of Science and Technology

Two Research Engineer positions are immediately open at Masdar Institute of Science and Technology in Abu Dhabi in the United Arab Emirates, to work at the Masdar Institute Solar Platform. The work will consist of operating and maintaining an existing hot oil loop (100 kW_{th}, 393 °C, 14 Bars) at the Masdar Institute Solar Platform (see Fig. 1 and 2) and test an innovative high-temperature concrete storage system developed by our industrial partner from Norway: EnergyNest AS.



Fig. 1. Masdar Institute Solar Platform.



Fig. 2. Hot-oil loop (left) & EnergyNest TES pilot (right).

Position: Research Engineer - EnergyNest TES operator

Location: Masdar Institute, Masdar Institute Solar Platform in Masdar City, Abu Dhabi, UAE

Description:

- EnergyNest AS has built a 1MWh Thermal Energy Storage (TES) pilot on Masdar's experimental 'beam-down' CSP installation at Masdar City. The aim is to demonstrate and prove cost-effective, flexible and scalable TES solutions for the global renewable energy sector. The TES is connected to the beam down solar concentrator at Masdar City, which essentially is a 100 kW_{th} concentrated solar power (CSP) pilot plant comprising of 33 heliostats, 280 m² of mirrors, and a 20 meter-high central reflector. The NEST technology is a patented concrete storage system which has already been subjected to testing within a laboratory environment. The storage concept is scalable to almost an unlimited degree and can be mass-fabricated on the basis of standardized modules composed of inexpensive and readily available materials. The system is to be tested, documented and proven within a live environment before it is made available commercially. Testing is currently in progress and supplementary man power is needed to cumulate cycling hours.

Job responsibilities:

- Responsible for day-to-day operation of TES at site and coordinate activities and run schedules with Masdar Institute Research Team
- Operate and run TES according to prescribed routines

- Report to main office on a daily basis tasks performed at the installation (Operations routines, maintenance performed, visits to site etc.)
- Be available to work overtime on an as needed basis
- Record and document TES performance
- Report any abnormal or irregular conditions that develop during the progress of the work and take corrective measures within the scope of operating instructions.
- Effectively communicate information to supervision and fellow plant personnel, relative to the condition of the plant equipment and performance, and provide suggestions for plant improvements
- Read logs, standing orders, procedures or other information, in order to remain current and informed of normal and abnormal situations
- In the event of loss of telemetering, computed data, network communications, etc., must coordinate or troubleshoot all events to insure performance of duties
- Utilize excel spreadsheets and available software to perform real time analysis evaluations to help maximize unit profitability and performance
- Coordinate activity in the event of an emergency
- Support Masdar Institute maintenance of beam-down facility
- Maintenance of sensors and field instrumentation on TES
- General maintenance of TES system (replace and clean oil filters, venting the installation, repair small leakages etc.)
- Prepare for site visitations by EnergyNest and potential customers

Desired competences:

- Attention to detail: Accomplishing tasks through concern for all areas involved; showing concern for all aspects of the job; accurately checking processes and tasks.
- Decision-making: Weighing alternatives and making decisions that reflect the facts of the situation. Basing decisions on logical assumptions that take into consideration established operating procedures and safety guidelines.
- Analysis/Problem Solving: Identifying problems, considering alternative solutions and taking the necessary steps to solve the problems.
- Innovation/Continuous Improvement: Initiating creative solutions to operating situations; adjust varying environments and responsibilities.

Experience and qualifications:

- Master degree in engineering (Mechanical Engineer, or energy-related studies)
- Experience working with concentrated solar power facilities (thermal oil-loop, pumps, etc.)
- Experience working with control systems (SIEMENS or similar)
- Not afraid of performing actual work required on the infrastructure and system
- Fluent in English, written and orally
- Familiarity with Arabic language is very beneficial to the position but not compulsory
- Willingness to relocate to Abu Dhabi

Proposed contract duration is one year (renewable depending on needs & funding). Salary will be AED16,000/month + benefits (Health insurance, paid vacation, flight ticket, laptop, relocation allowance, end of services benefits). Starting date is as soon as possible after security clearance checking and visa process.

The position will be open till filled.

The candidates should send their resume by Email to Dr. Nicolas Calvet (ncalvet@masdar.ac.ae).

Contact:

Dr. Nicolas Calvet

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Thank you very much, Best Regards,

Dr. Nicolas Calvet.