Senior Electrical Engineer in grid-scale Energy Storage Innovation: Gravitricity Ltd, Edinburgh

Gravitricity are an early stage Edinburgh based company developing a novel mechanical energy storage system. The team is growing, and we need dynamic engineers to drive forward the development of this innovative technology.

Job Brief

We are looking for an experienced Electrical Engineer to play a key role in our small team. The right person will be very self-driven to work proactively across a number of areas of the technology at the same time as supporting areas of commercial and strategic development. This will require a very strong engineering understanding and clear organisational view to take responsibility from early stage conceptual design through to detailed analysis of systems and components. To be successful in this role you will have to learn fast and be comfortable working outside of your core expertise. You will also have to be very pro-active and great at driving your own work. As a small company developing a complex technology, we are building strong partnerships with other organisations and you will need to be expert at managing and developing these partnerships in order to maximise the speed of progress.

Requirements

- Electrical engineering in industry (minimum 3 years). Ideally this will include experience developing grid connected systems > 200 kW which include rotating machinery.
- Strong understanding of the factors affecting the development of modern power systems and the role energy storage has to play
- Very good understanding of core electrical engineering concepts is essential including rotating machine types and characteristics
- Experience with specifying and developing control systems would be very beneficial.
- MATLAB and Simulink experience beneficial
- MEng in Electrical Engineering or equivalent

Benefits

- Chance to make a significant impact within a small and dynamic, early-stage company
- Competitive salary dependent on experience
- Modern, flexible company
- Company pension scheme with
- Company options scheme
- Location: Edinburgh

Application

We welcome applications from all candidates. To apply, please submit a CV & Cover letter to:

Miles Franklin
Lead Engineer
Miles.franklin@gravitricity.com

Responsibilities

- Responsibility for defining Gravitricity electrical systems requirements (motors, variable speed drives, grid compliance, grid connections)
- In depth analysis of component options to satisfy requirements and analysis of system level impact (e.g. effect of motor type on cost, efficiency and speed of response)
- Innovative examination of short / long-term system alternatives to reduce cost / increase performance
- Internal expert on user (e.g. grid, generator, consumer etc) requirements for a large energy storage device
- Key role in interface with winch manufacturer's electrical teams
- Responsibility for translating demonstrator test objectives into a set of test regimes, and an instrumentation and data collection architecture (in partnership with PNDC)
- High resolution modelling of motor behaviour to predict and optimise system performance and inform development of control strategy
- Key role in control system development (in partnership with external control expert)
- Work on the creation and protection of new IP
- Ownership of the costing of electrical systems and implementation of industry standard costing standards to characterise cost uncertainty
- Contribute significantly to conceptual design of large scale system
- Develop new methods to optimise the system design; both for cost and for performance
- Depending on skillset and other experience within the team, the successful candidate may:
    - Further develop the analysis of shaft sinking costs and constraints
    - Work with a civil engineering sub-contract to explore future system civil engineering issues
    - Work directly with an external controls partner to develop and analyse system simulations
    - Contribute to future cost modelling
    - Develop test protocols