

**JOB DESCRIPTION**

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| **Job Title:**  Senior Research Associate in Autonomous Operation of Power Networks |

 | **Present Grade:** 7 |
| **Department/College:** School of Engineering |
| **Directly responsible to:** Dr Xiandong Ma |
| **Supervisory responsibility for:** Some supervision of postgraduate students |
| **Other contacts**  |
| **Internal:** Prof Neeraj Suri in School of Computing and Communications, Lancaster University |
| **External:**  The Leverhulme Trust, relevant industrial and academic collaborators  |
| **Major Duties:**1. Improving and advancing our scientific understanding of how a complex and dynamic power grid system can monitor, search, configure and optimise itself with minimal human intervention. For example, in this specific context, new AI technology needs to develop to enable optimised and resilience system operation in response to environment changes in real-time and in automated ways.
2. Researching and developing new models, algorithms and procedures to identify operation condition of the power grid system, manage resources across the system autonomously, and configure the network topology responsive to dynamic performance changes, building on existing state-of-the-art technologies.
3. Participation in project meetings; preparation and presentation of talks, posters and reports, and material for the website associated with the project, to disseminate the results of the studies.
4. Participation in national and international conferences and workshops to present the results of the project to a wider audience and to learn about current advances in the field.
5. Preparation of journal papers for publication of project findings.
6. Participation in (and ultimately taking the lead in) writing new research proposals that build on the expertise in energy system monitoring, asset management, energy security and AI for operations research developed in this project.
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