

## JOB DESCRIPTION

**Vacancy Ref: A2267**

<b>Job Title:</b> Senior Research Associate: Data Management and Visualisation	<b>Grade:</b> 7
<b>Department/College:</b>	Chemistry / Energy Lancaster / Data Science Institute
<b>Directly responsible to:</b>	Prof Harry Hoster (Director Energy Lancaster);
<b>Supervisory responsibility for:</b>	<a href="#">Click here to enter text.</a>
<b>Other contacts</b> <b>Internal:</b> Dr Denes Csala (project supervisor), Energy Storage Group, Data Science Institute, Department of Chemistry, Department of Mathematics and Statistics, Energy Lancaster, Doctoral Training Centre STOR-I, Lancaster Institute of Contemporary Arts <b>External:</b> Faraday Institution, Multi Scale Modelling (MSM) Consortium, BMW, Jaguar Land Rover, Technical University Munich, Warwick Manufacturing Group, Imperial College, University College London, University of Oxford, University of Bath, University of Southampton	
<b>Major Duties:</b> <ol style="list-style-type: none"> <li>1. To establish the data exchange platform VISDAM (Visualisation and Data Management) that supports and promotes collaboration within the Multi Scale Modelling (MSM) consortium in the UK Faraday Institution: linking different modelling techniques, and bringing together modelling and experiment. This will start with selected “end-to-end” test cases and will be broadened over time.</li> <li>2. To establish interactive interfaces for the interaction of external stakeholders with findings of the MSM consortium: “Data Exploratorium” and “Data Kiosk”. This will serve the wider research community and industry.</li> <li>3. To gather and document the various formats of data streams generated in computational and experimental lithium-ion battery research as conducted in the MSM consortium.</li> <li>4. To establish metadata standards that allow seamless data exchange within the MSM consortium and with external collaborators. This will be essential to achieve true “multi-scale” modelling.</li> <li>5. To develop visualisation tools for a better understanding of computational and experimental methods and the underlying assumptions. This will remove communication hurdles internally and externally.</li> <li>6. To develop and implement data cleansing and normalization algorithms and set up a big data cluster, configure data streams. This will allow the system to grow over time whilst remaining manageable.</li> <li>7. To contribute to the day-to-day running of the Energy Storage group at Energy Lancaster, including the upkeep of data-related documentation and the organization of training for new staff and students.</li> <li>8. To participate in regular project meetings with industrial and academic partners; preparation and presentation of talks, posters and reports to disseminate the results of these studies.</li> <li>9. To participate 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.</li> <li>10. To prepare journal papers for publication of project findings.</li> <li>11. Any other duties appropriate to the grade as delegated by Dr Denes Csala and Prof Harry Hoster.</li> </ol>	