

**JOB DESCRIPTION**

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| **Job Title:** Senior Research Associate in the Tropospheric Impacts of a Future Hydrogen Economy | **Present Grade:** 7 |
| **Department/College:** Lancaster Environment Centre |
| **Directly responsible to:** Prof. Oliver Wild |
| **Supervisory responsibility for:** Some supervision of postgraduate students |
| **Other contacts**  |
| **Internal:**Dr. Ryan Hossaini; members of the atmospheric science research group; academic staff and PDRAs in LEC |
| **External:**  **I**nternational project partners on the Horizon Europe project HYDRA; national and international scientists working on the atmospheric and broader environmental impacts of future hydrogen usage.  |
| **Major Duties:**This position will contribute to the Horizon Europe project HYDRA addressing the atmospheric and environmental implications of a future hydrogen economy. The goal of the position is to improve current understanding of the impacts of hydrogen usage scenarios on tropospheric composition and to quantify and assess uncertainties in the soil sink, which dominates removal of hydrogen from the atmosphere. Specific duties include:1. Development and application of the FRSGC/UCI global Chemical Transport Model to quantify the present and future budget of hydrogen in the troposphere following new scenarios for future hydrogen usage developed in the HYDRA project.
2. Assessment of the magnitude and uncertainty of soil processes for uptake of atmospheric hydrogen. This will involve both implementation and further development of existing schemes described in the literature and application of statistical approaches to undertake formal uncertainty quantification of the soil hydrogen sink.
3. Participation in HYDRA project meetings; preparation and presentation of talks, posters and reports to disseminate the results of these studies.
4. Preparation of progress reports for HYDRA describing the results of the project.
5. 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.
6. Preparation of research papers for publication of project findings in the scientific literature.
7. Involvement in development of new research proposals that build on the expertise in atmospheric hydrogen developed in this project.

Applicants interested in this post should include a short cover letter stating that they are applying for the **Tropospheric** position. |