

**JOB DESCRIPTION**

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| **Job Title:** Senior Research Associate in the Stratospheric Impacts of a Future Hydrogen Economy | **Present Grade:** 7 |
| **Department/College:** Lancaster Environment Centre | |
| **Directly responsible to:** Dr. Ryan Hossaini | |
| **Supervisory responsibility for:** Some supervision of postgraduate students | |
| **Other contacts** | |
| **Internal:**  Prof. Oliver Wild; 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 stratospheric composition and ozone hole recovery and to contribute to exploring the effects of hydrogen on future climate change. Specific duties include:   1. Development and application of a stratospheric chemical transport model to quantify the present and future budget of hydrogen in the stratosphere following new scenarios for future hydrogen usage developed in the HYDRA project. 2. Development and application of the UK Earth System Model, UKESM1, to include hydrogen impact on the stratosphere, and to use this to investigate future ozone hole recovery and the climate impacts of future hydrogen usage scenarios, in collaboration with project partners at CNR-Bologna. 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 **Stratospheric** position. | |