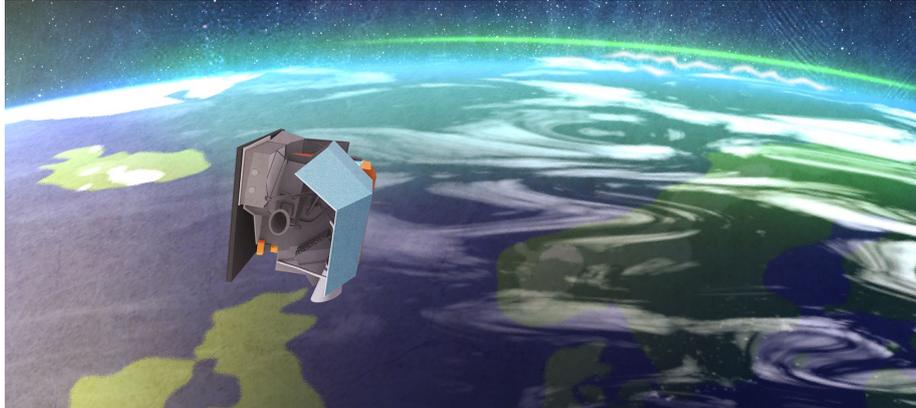


# Help us understand climate change all the way into space.



**We are a group of researchers interested in understanding the earth's atmosphere, how it works and how it may change in the future. We are currently looking for a motivated student to help us explore climate change in the upper atmosphere and if you are interested let us know!**

## **Do you**

- Want to master data science methods
- Want to explore new areas of human impact on climate
- Interested in learning how to work with satellite data
- Want to learn how to work with data coming from real operational instruments

## **About the project**

We all know that the lower part of the atmosphere is heating due to human emissions of CO<sub>2</sub>. What is less known is that fact that the upper atmosphere (above 50 km) is cooling down for the same reasons. In fact, its cooling down at about twice as fast as the surface is warming!

To accurately be able to understand this, scientists need data on different chemical compounds in the upper atmosphere, and in this project, we aim to create a global map of one of the most important one, Ozone.

The project will be completed in four steps:

1. Getting familiar with the data and processing methods of the instruments
2. Create monthly data products based on the data
3. Investigate trends and anomalies in the dataset
4. Summarize in report

## **Future jobs and industry connections**

New space is emerging as an industry due to a competitive market with big companies like SpaceX decreases the cost of satellites. The result is that satellite data is becoming ever more important for decisionmakers both public and private sector.

Additionally, at our department we emphasise an understanding of the whole system from satellite, space instrumentation and data processing methods. These skills are applicable to a range of industries, and many candidates have moved on to jobs in companies like RUAG, Omnisys Instruments and Ericsson.

Finally, in close collaboration with our industry partners in the Swedish space industry we are currently building a new satellite called MATS which will launch 2021. So should you want to continue research, there will be opportunities for PhD funded positions both in Sweden and abroad related to this project.

**Contact us:**

**Ole Martin Christensen: [ole.m.christensen@chalmers.se](mailto:ole.m.christensen@chalmers.se)**

**Kristell Perot: [kristell.perot@chalmers.se](mailto:kristell.perot@chalmers.se)**

**Anqi Li: [anqi.li@chalmers.se](mailto:anqi.li@chalmers.se)**

**Donal Murtagh: [donal.murtagh@chalmers.se](mailto:donal.murtagh@chalmers.se)**