Climate studies in Polar Regions

Position title: **Research Assistant**

Research project title: **Climate studies in polar regions.**

Supervisor name and title: **Professor David M. Holland, Center for Global Sea Level Change (CSLC), NYUAD.**

Co-Supervisor name and title: **One of the Research Scientists at the Center for Global Sea Level Change (CSLC), NYUAD.**

Rearch project description

Global sea-level rise is one of the most discussed potential consequences of global warming. Large uncertainties remain in the current and future contribution to sea level rise from Antarctica. The most uncertain aspect of such future sea-level change has to do with the marine based ice sheets, and particularly that of Antarctica, which has at least a volume equivalent to 56.6 m of sea level rise (IPCC AR4). Despite its potential importance, current generation of global climate models are unable to simulate sea-level change arising from ice sheet-ocean-atmosphere interactions, mainly because mechanisms governing this process at regional and small scales still poorly understood.

A step towards remediating this situation is to advance our understanding of the multiple-interconnected processes at play in the ice melting in Antarctica, by studying the changes of the state of the Antarctic cryosphere components including land and sea ice, glaciers, ocean, ice shelves and atmosphere. Such advances will lay the groundwork for including the ice sheet-ocean-atmosphere interaction in global scale, IPCC class models.

This project aims at investigating the role of the different components of the cryosphere and the atmosphere by analyzing satellite, ground based and airborne data, complimented by regional modelling and reanalyses data.

Keywords: Ice melt, Antarctica, glaciers, Satellite observations, 3D models, ice shelves, remote sensing, etc…

Responsibilities of the position

- Work in collaboration and under the supervision of the research scientist at the center.
- Write and develop scripts to analyze the data as per the project description and produce meaningful plots,
- Learn how to set up and run a real-case simulation using a 3D geophysical models,
- Read and summarize research articles relevant to the problematic addressed in the project,
- Co-write a research article detailing the results,
- Present the work at meetings and conferences.

Essential qualifications

- B.SC. in Mathematics, Physics, Meteorology or Computer Science 1st or upper second class degree.

- Proficiency in English, reading, writing, listening and speaking, equivalent to IELTS 6.0.

Preferred experience and skills

- MA in Computer Science,

- Experience in working with large datasets and netcdf files.

- Programming skills using Python, Matlab, IDL or R.

- Familiarity with Linux and Unix operating systems.

Applicant to provide

1. Statement of research interest

2. Transcript of degree(s)

3. CV

4. Two letters of recommendation