



UNIVERSITY OF GOTHENBURG
FACULTY OF SCIENCE

AVAILABLE POSITION

16th of September 2010 Ref nr E 334 3720/10

The University of Gothenburg, Faculty of Science announces in the strategic research initiative BECC (Biodiversity an Ecosystem services in a Changing Climate) and MERGE (Modelling the Regional and Global Earth system) and with financial support from Statens energimyndighet and project in Formas; LAGGE (Landscape Greenhouse Gas Exchange), 8 Ph.D. positions and 1 postdoctoral position at the Departments of Earth Sciences, Plant and Environmental Sciences and Chemistry

The following position is one of these. 5 (9).

PhD position in Department of Earth Sciences, Faculty of Science, with a focus on climate models.

Position description:

We seek a PhD student to work on the project "*A regional-scale perspective on metrics for assessing global climate models*". The project is jointly funded through the strategic research initiative *Modelling the Regional and Global Earth system* — *MERGE*, the Swedish Meteorological and Hydrological Institute (SMHI), an the University of Gothenburg.

We would prefer studies to commence in early 2011. The first two years fulltime studies will be paid by an education grant, and the following two years by PhD employment.

Supervisors:

Dr. David Rayner (*also contact person for this application*)
Department of Earth Sciences, University of Gothenburg.
david.rayner@gvc.gu.se, +46 (0)31 786 4849

Dr. Klaus Wyser
Rossby Centre, Swedish Hydrological and Meteorological Institute (SMHI).
klaus.wyser@smhi.se, +46 (0)11 495 8464

Research description:

Global Climate Models (GCMs) simulate the climate well at a global scale. However, there are large differences between different models – and with observed data – especially at regional and local scales. Before downscaling global data, researchers must decide how well a certain global model reproduces the observed climate, and choose the best model to use for downscaling. In order to rank the different models, we need *climate model metrics* that give an objective

and reproducible measure for how well a climate model is simulating the climate.

This purpose of this position is to conduct research on climate model metrics, and use metrics to weight different GCMs. We envision that the effect of using metrics on climate change projections for the Scandinavian would also be investigated.

The research environment:

As a student you will work within the Regional Climate Group (RCG, <http://rcg.gvc.gu.se/>) in the Department of Earth Sciences (GVC), University of Gothenburg. RCG research focuses on climate change, variability and impacts from the past to the future. RCG represents a successful research environment, with a high scientific production rate, good connections with international and national research communities, and modern climate research tools.

You will be jointly-supervised from the Rossby Center, SMHI's climate modelling research unit. Research at the Rossby Center focuses on climate models and the application of models for climate simulations. Rossby Centre develops and uses the global EC-EARTH the regional RCA models for their research.

The student we seek:

To be eligible, applicants must have:

1. completed an advanced level course (magister or maters) in a relevant subject such as atmospheric science, geography, or statistical analysis.
2. completed tertiary courses worth 240 points, of which at least 60 are at an advanced level in a relevant subject, or
3. be able to demonstrate an equivalent qualification or knowledge.

The project will involve developing and implementing new techniques for statistical analysis of large, spatio-temporal climate datasets.

Applicants will be advantaged if they have completed university-level courses (or have equivalent experience) in:

- sophisticated data analysis software (eg. Matlab, R, SAS), mathematical statistics or computer programming;
- climate knowledge, climate change atmospheric processes.

Specific experience with climate data analysis will be highly regarded.

Good proficiency with both written and spoken English is required.

The Ph.D. studies lead to a Ph.D. in Natural Sciences with a specialisation in physical Geography.

Selection Criteria:

Candidates will be short-listed according to the:

- caliber of academic results (undergraduate and masters)
- relevance of previous studies/experience for the research project
- quality of the application (the relevance, language and presentation of the cover letter and CV; how well the research proposal demonstrates an ability to research information and contribute original ideas)

A successful will then be selected based on:

- an interview (possibly conducted remotely), and
- advice from the reference persons as to candidate's suitability for the position.

To Apply:

Your application should consist of:

- A cover letter, in which you introduce yourself and highlight those aspects of your CV that are most relevant for the position.
- A research proposal (one A4 page, including any figures and references).
Suppose you are given outputs from a climate model simulation of the last 50 years. Suggest a statistical test that could be used to assess how realistic these outputs are. (Note that the research proposal remains your own intellectual-property, regardless of the eventual success of your application).
- Your CV, including contact details of two reference persons.
- A copy of your academic record.

Application should be sent to:

Eugenia Andersson, Department of Earth Sciences, University of Gothenburg, Box 460, 405 30 Gothenburg.

Mark the application with reference number E 334 3720/10

The application must be received **no later than 31th of October 2010**

Trade union representatives

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Links:

Institutional homepage: www.gvc.gu.se

Research group (RCG) homepage: rcg.gvc.gu.se

A description of the current project can be found at:

[http://www.gvc.gu.se/Personal/Personal/Rayner David/Current Projects/](http://www.gvc.gu.se/Personal/Personal/Rayner%20David/Current%20Projects/)

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