

Department of Geography  
Attn. Dr. Ian Rutt  
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## Support Letter

Dear Ian Rutt,

I am delighted to write this letter to support your application to NERC International Opportunities Fund: IOF37, "Shared frameworks for next-generation ice sheet modelling".

At the Danish Climate Centre (DKC) we are already working on coupling an ice sheet model (PISM) to both a Regional Climate Model (HIRHAM) and an Earth System Model (EC-Earth). Our work on coupling these models is closely related to the proposed activity as we have been developing the coupling algorithm that will be operational between both the low resolution global model and the higher resolution regional climate model. We have succeeded in creating a first version of the coupling to both models, but there are a number of unsolved issues and challenges in both the technical and physical aspects of the model coupling where a wide collaboration and a community effort would contribute to a faster progress than any individual efforts.

We therefore welcome the opportunity this NERC funded effort can provide to shaping the generic model coupler and possibly implement any outcome products of the project ourselves. The vision of a generic model coupler that can be applied with any climate or ice sheet model combination is grand and if successful would be a very valuable contribution to ongoing research on the response of ice sheets to climate changes, as well as their contribution to sea level rise and other dynamic feedbacks that can only be investigated with a properly two-way coupled models. We foresee that DKC can contribute to the project by participating in the planned workshops where first a draft API is produced and then later developed further as partners work on implementing this in their own model system.

The direct contribution of DKC to this project would be in terms of investment of time of our model coupling person, when participating in the two 4 day workshops in the UK. Minimum direct cost due to this participation (numbers and exchange rates taken in September 2011) is 2664 DKK per day or 312.3 GBP per day with daily allowance of 455 DKK per day or 53.3 GBP per day, total for the two workshops the direct minimum contribution would therefore be 2926 GBP. In addition, we foresee that possibly some effort will be contributed in preparation for the



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workshop, contributing comments or possibly implementing new aspects developed during the workshops. An estimate of 3 weeks effort for the duration of the project is reasonable in our view at this point, which would amount to 4685 GPB.

It is with enthusiasm that the Danish Climate Centre offers its best support to your application.

With best wishes for the success of your interesting application.

Sincerely,



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