Responses to the selection criteria

A PhD or equivalent in glaciology or related polar field. In 2011, I was awarded my doctorate from RWTH Aachen University with the highest distinction summa cum laude. The thesis dealt with the application, optimization, and uncertainty estimation of global nonlinear nonparametric prediction algorithms for snow and ice processes, hydrological processes, and atmospheric processes. For this work, I received the German Dissertation Award in 2012, which is awarded to only one candidate each year.

A substantial record in, and continuing commitment to, research that has achieved international recognition, made innovative, and sustained contributions to the field of cryospheric science and produced high-quality publications. I have extensive and long-standing experience in cryosphere research and have led several international research projects (9), research initiatives (3), summer schools (2) and expeditions (>35) (see CV). The results and concepts developed in these projects and initiatives have been published in high impact journals (e.g. The Cryosphere, Nature Climate Change, Nature communications, Reviews of Geophysics). I am well connected within the international glaciological and meteorological community and have been an invited speaker at international conferences (e.g. IUGG, AGU, EGU) and invited expert in panel discussions, TV documentaries and radio and TV interviews. Furthermore, I have also been a member of steering and management committees in four major international research programmes, and I am topical editor for ice caps, alpine glaciers, glacier-atmosphere interactions, and observation/modelling of energy fluxes of the journal "The Cryosphere".

Significant record of competitive funding success in polar research. Of the nine research projects acquired as principal investigator, seven had a glaciological focus (see Annex research grants). The total amount of funding raised is more than 2 million euros (3 million $AU).

An extensive knowledge, experience, and achievement in University level teaching and learning. As my curriculum vitae shows, I have had the fortune to work as a lecturer, starting at the RWTH Aachen as well as during my time at the Universities of Innsbruck, Erlangen and the Humboldt-Universität zu Berlin. I have designed and taught a wide range of lectures and seminars, including glaciology, glacier dynamics, atmospheric physics, boundary layer physics, climate modelling, as well as advanced seminars, field courses, programming courses, and methodological courses (see Annex teaching experience).

A proven ability as an academic leader, with a record in team building and creating effective working relationships, and capacity to foster excellence in research and teaching. I am currently a visiting professor at the Humboldt University of Berlin and head of the Climate Research Group at the Institute of Geography. My group currently consists of 8 PhD students, 2 technicians and 4 PostDocs working on 9 research projects focusing on "Cryosphere-Land-Atmosphere Interaction and Climate Change" and "Urban Climate and Air Pollution Control". I have successfully supervised PhD theses as well as more than a dozen Bachelor and Master students. In addition to research and supervising students, I have taken on responsibilities in academic self-administration. These tasks include committee work (e.g. institute council, lecturer panel, equal opportunities commission), working groups (e.g. high-performance computing) and examination boards.