Graduate training in Earth science across borders and disciplines: ArcTrain -"Processes and impacts of climate change in the North Atlantic Ocean and the Canadian Arctic"

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Due to a complex set of feedback processes collectively known as "polar amplification", the Arctic realm is expected to experience a greater-than-average response to global climate forcing. The cascades of feedback processes that connect the Arctic cryosphere, ocean and atmosphere remain incompletely constrained by observations and theory and are difficult to simulate in climate models. Our capacity to predict the future of the region and assess the impacts of Arctic change processes on global and regional environments hinges on the availability of interdisciplinary experts with strong international experience and understanding of the science/society interface. This is the basis of the International Research Training Group "Processes and impacts of climate change in the North Atlantic Ocean and the Canadian Arctic - ArcTrain", which was initiated in 2013. ArcTrain aims to educate PhD students in an interdisciplinary environment that combines paleoclimatology, physical oceanography, remote sensing and glaciology with comprehensive Earth system modelling, including sea-ice and ice-sheet components. The qualification program for the PhD students includes joint supervision, mandatory research residences at partner institutions, field courses on land and on sea (Floating University), annual meetings and training workshops and a challenging structured training in expert skills and transferrable skills. Its aim is to enhance the career prospects and employability of the graduates in a challenging international job market across academic and applied sectors.

ArcTrain is a collaborative project at the University of Bremen and the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven. The German part of the project is designed to continue for nine years and educate three cohorts of twelve PhD students each. The Canadian partners comprise a consortium of eight universities led by the GEOTOP cluster at the Université du Québec à Montréal and including Dalhousie University, McGill University, Memorial University of Newfoundland, University of Alberta, University of British Columbia, University of Calgary and Université du Québec à Rimouski.

Further details about ArcTrain are available at:
https://www.marum.de/ArcTrain.html