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MA Cultural Geography

Fieldwork at the Karlsruhe Institute of Technology (KIT)

Reading about ideas to 'engineer' the climate to counter climate change is one thing but to have the opportunity to witness the scientific research exploring the possibility of these ideas is another. With help from the Santander Travel award, I was able to do just that. At the Karlsruhe Institute of Technology (KIT) in Germany, experiments are being conducted to investigate a proposal to 'thin' Arctic cirrus clouds through the addition of aerosol particles. Providing me with the necessary funds to travel to Karlsruhe for a week, I was gifted the opportunity to observe these fascinating experiments and pursue my MA dissertation project entitled 'Consulting the Arctic cirrus: the elemental encounters of cloud thinning research'.

The impact of different aerosol particles on the formation of cirrus clouds remain relatively unknown. In acknowledgement of these uncertainties, and in light of its newly-found importance, the German Research Foundation (DFG) have funded the *Climate Engineering by Arctic Winter Cirrus Thinning (AWiCiT): Risks and Feasibility* project. Along with the Swiss Federal Institute of Technology in Zürich, KIT are leading the research for this project, using the state-of-the-art cloud chamber of their Aerosol Interaction and Dynamics in the Atmosphere (AIDA) facility to recreate the Arctic atmosphere and intervene in the formation of cirrus clouds. Inspired by a number of ideas within geography and philosophy, my dissertation was focused on the unique human-environment relations of these experiments and by covering the costs of flights and accommodation, the award enabled me to stay at the institute for a week and experience the work of the research team first hand. I was able to learn about and observe the cloud chamber experiments of the project's 5th research campaign, interview staff of the Institute of Meteorology and Climate Research (IMK) and discuss the place of this work in the development of climate models.

The IMK's department for Atmospheric Aerosol Research, home to the cloud chamber and the AWiCiT experiments. The dome and cylinder that can be seen protruding from the middle of the building house the upper heights of the cloud chamber.

With support for this fieldwork trip, my dissertation project was able to make a contribution to the growing field of social scientific and humanities-based research and commentary on climate engineering. Engaging with the research project first hand, I was able to analyse and bring to account a climate engineering proposal and area of research that has remained on the periphery of discussion and develop new ideas and approaches to the geographies of science. More importantly, I was able to experience, for myself, the experiments that could shape the future of our planet and take my studies and engagement with the field of climate engineering to new depths. Thank you to Santander and Royal Holloway for the travel award and thank you to everyone at KIT for giving me the opportunity to visit and welcoming me into their department.

Read more about the AWiCiT project and the climate engineering research of the DFG at: https://www.spp-climate-engineering.de/projects.html