

Acceptance speech

20 June 2024

Jakob Schwander, awardee in the Climate Change category (16th edition)

The announcement of the BBVA Foundation's Frontiers of Knowledge Award triggered a philosophical question in me about the contribution of my ego to the scientific work which led to the nomination and finally to the selection. Or to put it another way: do I deserve this award and why? Of course I don't know the answer in the deep sense. But I realize that I am very glad that I have met the "right" people in my life and I am very grateful to them: My parents, brother and sister, my teachers, my colleagues, my wife, my family, my friends and so on. I'm glad that I have a brain that has worked reasonably well. A lot of it is fate or chance or whatever you want to call it, and it is mostly luck when it turns out well. I am also lucky that I grew up on a farm, where I enjoyed great freedom and was involved in repairing machinery, for example, which helped me a lot on my later expeditions to the polar regions, where I was again lucky to meet many important and influential people with whom I remained in contact for many years, or still am.

I started my scientific career in Hans Oeschger's group when the first reliable measurements of greenhouse gases were made on air extracted from the bubbles in ice cores. My interest focused on the enclosure of those air bubbles. I was able to help promote research on the age of this air and the quality of the air that represents the atmospheric composition at the time it was trapped in the ice. When I started working on this, there were only a handful of scientists worldwide studying these processes. Today there is a whole community working on this and similar topics, and I am glad that I was one of the initiators.

During my many expeditions to the polar regions, I was often involved in deep drilling operations. As they are very time consuming and costly, and the outcome of the paleo-records obtained from the analysis of the ice cores is often uncertain, the idea of an instrument that would allow rapid access to the deep ice of the polar ice sheets has followed me for many years. New techniques, such as 3-D metal printing, and a very supportive working environment have finally enabled me to realize a tiny drill that drills a thumb-sized hole and a measuring device to pre-investigate a potential drilling site. So far, we have drilled to a depth of 320 m into the -55 degree cold Antarctic ice.

There are still some improvements to be made to reach the full depth of a 3000 m thick ice sheet. I am very thankful to the whole team at the University of Bern and all the international colleagues who made it possible to pursue this project.

All in all, I am pleased that our study of climate history from ice cores has been widely recognized in society, and I would like to thank the BBVA Foundation and the committee for judging our studies as highly relevant to humanity.