



#### NAME

Jörn Thiede

#### TITLE OF PRESENTATION

Marine research in the Central Arctic: a multitude of challenges

#### ABSTRACT OF PRESENTATION

To conduct successful marine research on a grand scale requires powerful and highly specialized infrastructure. Dedicated polar research vessels have been developed in three generations, the first one close to the beginning of the last century, with Fridtjof Nansen's FRAM the most famous of them, the second one some 30 years ago, with Swedish ODEN and the German POLARSTERN as typical examples. These ships carry large international research groups routinely to the North Pole, but only during the peak summer season. The ships also have other deficiencies, with the result that the nations with high stakes in exploring the central Arctic Ocean should join forces in a completely new endeavour, namely planning and running an innovative powerful new research icebreaker. The AURORA BOREALIS is such a project and is presently dealt with because the European Polar Board recognized that progress in Arctic marine research could only be achieved if new scientific tools and innovative ways of international cooperation are developed. The capacities of this new ship which shall do things which nobody had been able to do previously calls for innovative technology and novel ways for the international coordination of central Arctic Ocean research during all seasons of the year. It is presently globally the largest climate- and environment-related infrastructure project. We are in dear need for new and additional research ice breakers to thoroughly understand properties and history of an area which is of great importance for Europe and which is changing fast and which still can be considered the largest contiguous unknown piece of crust of the global ocean. The AURORA BOREALIS would also act as a floating polar university. Conclusions for the future: European researchers are carrying out cutting-edge in extreme polar environments, but they could have better facilities and they should strive for a better use of their capabilities and capacities. Research in extreme polar environments also requires to attract the brightest and the youngest to meet the challenge to understand global environmental change which is considered one of the largest societal challenges of our generation.

#### BIOGRAPHICAL NOTE

Jörn Thiede, born in 1941, studied geosciences at the universities of Kiel, Vienna and Buenos Aires. 1967-1982 he worked in junior to senior academic positions (from amanuensis to full professor) at the universities of Aarhus/DK, Bergen/N, Oregon State University in Corvallis, Oslo/N and learned to sail the world's oceans attempting to understand the history of their shape, waters and life. In 1982 he moved to a professorship in Historical Geology and Paleontology at Kiel University, and pursued the foundation of a new research institution in marine geosciences (GEOMAR). GEOMAR was established in 1987 and he became its founding director. In 1988 he was granted the Leibniz-Prize by the DFG, Germany's most prestigious science award. During that time he also led as chief scientist expeditions into high northern latitude waters (on POLARSTERN, the German research ice breaker, and on JOIDES RESOLUTION, the ODP drill ship). He initiated the ODP drilling program „North Atlantic Arctic Gateways“ which resulted in several legs. Before moving to Denmark, where he was a professor for “Geology and Climate” at the Geocenter Denmark for 3 years, he became the director of the Alfred-Wegener-Institute, the German Helmholtz-Center for Polar and Marine Research (1997-2007). As chairman of the European Polar Board (EPB) 1999-2002 of the European Science Foundation and President of SCAR (2002-2006) he reorganized both organisations, helped to prepare for the IPY and initiated the EU-ESFRI project AURORA BOREALIS (novel international research icebreaker for the Arctic). Presently he is holding a Russian “megagrant” with the aim to establish a new laboratory “Paleogeography and Geomorphology Research of Polar Countries and the World Oceanis” and hence is now working parttime at the St. Petersburg State University/ Russia.