Ocean and Earth Science, National Oceanography Centre Southampton

# Professor Eelco Rohling receives Royal Society Wolfson Research Merit Award

22 December 2010

Professor Eelco Rohling of the School of Ocean and Earth Science, University of Southampton, has been awarded a prestigious Wolfson Research Merit Award by the Royal Society, the UK's national academy of science.

Professor Rohling received the award to support his research on global ice volume, a key indicator of change in the global climate state and, through its control on sea level, a major concern to society. To better understand how the relationships between ice volume and other key climate factors have varied through time, Professor Rohling will conduct research to determine in detail how much and how fast global ice volume (= sea level) fluctuated during large natural climate changes. The last four ice-age cycles (last 450,000 years) present an excellent target for this study because they cover a very wide range of climate states, and detailed records can be obtained for all key climate parameters through that period.

The work, which will lead to a better understanding of the potential of future sea-level change, will examine the fundamental relationships between changes in global ice volume/sea level, temperature and CO2 concentrations, and will investigate how rapidly data from the last four ice-age cycles suggests that the climate system, including ice volume, may adapt to a change in climate forcing. The project will also seek to answer questions as to whether the sensitivity of global temperature to a given change in climate forcing (for example, greenhouse gas concentrations or solar radiation) is constant through ice-age cycles, or whether it varies depending on the background state (for example, warm or cold) of the climate.

Professor Rohling says: "The project will deliver completely new insights into the rates and magnitudes of the major changes in the climate system during the period of study, on century timescales that are relevant to society. A particularly exciting aspect of this study is that, for the first time, we will show in detail how the major processes of climate change have developed together through several large natural climate changes, based on real-life data. The project will offer a real-world perspective and a critical reality-check for computer-models of climate change, and will improve our capacity to make projections for the future."

Jointly funded by the Wolfson Foundation and the Department of Business, Innovation and Skills (BIS), the Wolfston Research Merit Award provides universities with additional support to enable them to attract to this country, and retain, respected

scientists of outstanding achievement and potential.