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Karlsruhe Institute of Technology

# KIT Climate Lecture

13th December 2012, 6 pm, Gartensaal at Schloss Karlsruhe

KIT CLIMATE AND ENVIRONMENT CENTER




KIT – University of the State of Baden-Wuerttemberg and
National Research Center of the Helmholtz Association

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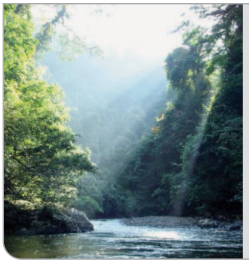
KIT Climate Lecture

**Thursday, 13th December 2012**
**6 pm**

Gartensaal at Schloss Karlsruhe
Schlossbezirk 10
76131 Karlsruhe



In the 21st century, living conditions on Earth are changing as profoundly as never before. With more than 650 scientists from over 30 institutes, the KIT Climate and Environment Center develops strategies and technologies to secure the natural bases of life. The future challenges to the Earth's resources and environment are subject of the KIT Climate and Environment lectures.

# Programme

- **Welcome**

  Dr. Peter Fritz
  Vice President Research and Innovation

  Professor Johannes Orphal
  Scientific Spokesman, KIT Climate and Environment Center

- The 2012 KIT Climate Lecture:
  **Past climates trapped in the ice**
  Water isotopes : atmospheric modeling and applications to polar ice core studies
  Professor Jean Jouzel, Research Director,
  Atomic Energy and Alternative Energies Commission (CEA), France

- **Reception**


**Abstract**

The presentation will first address theoretical aspects related to the physics and the modeling of water isotopes in the atmosphere. Then a few examples shall illustrate the climatic information that can be extracted from these isotopes measured along deep ice cores drilled in Greenland and Antarctica. Recent advances are based on progress in methodologies thanks to technologies which have revolutionized this field of research, i.e. better measurement techniques of the $^{17}O/^{18}O$ ratio, as well as enhanced technologies for simulation and analysis. This allows to extend the climatic information over 8 glacial-interglacial cycles in Antarctica and back to the Last Interglacial in Greenland.


**Professor Jean Jouzel**

Jean Jouzel is Research Director at the Atomic Energy and Alternative Energies Commission (CEA). His main scientific involvement has been with the use of water stable isotopes (deuterium and oxygen 18) for reconstructing past climate changes from ice cores at various timescales, and with associated atmospheric modelling. He has participated in major international ice core projects in Antarctica and Greenland. Currently, he is Vice-Chair of the IPCC Working Group I.