



**FWF**

Der Wissenschaftsfonds.



## RESEARCH CONFERENCES

ESF-FWF Conference in Partnership with LFUI

# Ocean Controls in Abrupt Climate Change

Universitätszentrum Obergurgl  
(Ötz Valley, near Innsbruck) • Austria  
19-24 May 2007

The conference aims to present an updated view on and advance understanding of the interhemispheric significance of rapid ocean and climate change by focusing on past periods of natural anomalous perturbation of the Atlantic Meridional Overturning Circulation. Research groups from the marine and ice core palaeoclimatology and climate modeling communities will present the state-of-the-art of their research into the sources and interhemispheric propagation of abrupt ocean and climate signals.

Six thematic sessions will integrate the palaeoclimatic evidence in a series of lectures that will be complemented by poster presentations. Time will be dedicated to the dialogue between the disciplines during plenary discussions and guided round table discussions involving senior scientists, young researchers and post-graduate students. It is a stated objective of the conference to encourage participation of early-stage and post-doctoral researchers.



**Chair:** Rainer Zahn, Universitat Autònoma de Barcelona / ICTA / ICREA, ES  
**Co-Chair:** Ian R. Hall, Cardiff University, UK

### Invited Speakers will include

J.-M. Barnola, CNRS-UJF, St. Martin d'Hères, FR	E.J. Rohling, Southampton U., UK
I. Cacho, Barcelona U., ES	E. Michel, CNRS-LSCE, Gif/Yvette, FR
D. Dahl Jensen, Niels Bohr Inst., Copenhagen, DK	S. Mulitza, Bremen U., DE
T. Fichefet, U. Catholique, Louvain, BE	U. Ninnemann, BCCR, Bergen, NO
A. Ganopolski, PIK Postdam, DE	D. Nuernberg, IFM-GEOMAR, Kiel, DE
I. Hall, Cardiff U., UK	D. Oppo, WHOI, US
J. Hirschi, Southampton U., UK	A. Piotrowski, Cambridge U., UK
C. Kissel, CNRS/CEA, Gif/Yvette, FR	G. Schmidt, NASA/GISS, New York, US
N. KOC, Polar Inst., Tromsø, NO	A. Schmittner, Oregon State U., Corvallis, US
J. Lynch-Stieglitz, Gatech Atlanta, US	M. Schulz, Bremen U., DE
O. Marchal, WHOI, US	T. Stocker, Bern U., CH
C. Mauritzen, Meteorological Inst., Oslo, NO	M. Visbeck, IFM-GEOMAR, Kiel, DE
	C. Waelbroeck, CNRS-LSCE, Gif/Yvette, FR
	R. Zahn, Barcelona U. / ICTA / ICREA, ES

**Application Form & Programme** available from  
[www.esf.org/conferences/07221](http://www.esf.org/conferences/07221)

**Closing Date for Application 8 March 2007**

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[www.esf.org](http://www.esf.org)

## Preliminary Programme

### Ocean Thermohaline Circulation – Linking the Hemispheres

**Cecilie Mauritzen**

The physics of ocean circulation: dense water formation, overflows and the MOC

**Joël Hirschi**

Monitoring the Atlantic meridional overturning circulation: Advances and challenges

**Olivier Marchall**

On the use of inverse methods in paleoceanography: Combining noisy data with imperfect models

**Jean Lynch-Stieglitz**

Atlantic MOC variability over the past 20,000 years from ocean margin density reconstructions

**Catherine Kissel**

Millennial-scale Water Mass Transfer in the Glacial Atlantic Ocean

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### Northern High-Latitude Ocean Dynamics – Abrupt Changes in Ocean Convection

**Martin Visbeck**

Interannual to decadal climate variability and change in the Atlantic Sector, a challenge for observations and models

**Nalan Koc**

Surface ocean climate variability of the high-latitude North Atlantic through the Holocene

**Delia Oppo**

Intermediate water variability during abrupt climate change

**Ian Hall**

Dynamic reconstruction of the overflows

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### Cross-equatorial transfers and subtropical gyre circulation

**Claire Waelbroeck**

Abrupt climate and circulation changes in the tropics

**Stefan Mulitza**

Response of the tropical Atlantic to Heinrich events and Dansgaard/Oeschger cycles

**Isabel Cacho**

Climate variability in the Eastern Equatorial Pacific Ocean: High-low latitudes linkages

**Dirk Nürnberg**

Gulf of Mexico Loop Current variability, fluvial discharge and Atlantic THC

**Elisabeth Michel**

Southern Ocean variability and ocean circulation during abrupt climate change

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### Southern Component – Sources and Inter-ocean Exchange

**Alex Piotrowski**

Emerging perspectives on glacial deep ocean circulation and nutrient storage from Nd isotope records

**Ulysses Ninnemann**

Circumpolar circulation and AAIW properties during decadal to millennial scale climate change

**Rainer Zahn**

Agulhas transports: an agent in Atlantic THC changes

**Eelco Rohling**

Abrupt sea level changes: sources and consequences

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### Ocean Versus Ice Core Linking

**Dorthe Dahl Jensen**

NGRIP ice core palaeoclimatology

**Jerome Chapellaz Barnola**

Atmospheric composition during past rapid climate changes

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### Hierarchical modelling of past climate variability

**Andrej Ganopolski**

The role of the ocean-atmosphere-ice sheet interaction in the abrupt glacial climate changes

**Michael Schulz**

Linking models with the palaeo-record

**Thierry Fichefet**

Interactions between cryosphere and Atlantic MOC during the Holocene and the next millennia

**Andreas Schmittner**

Impact of possible future changes in ocean circulation on the marine ecosystem and biogeochemical cycles

**Thomas Stocker**

Projection of climate change: A unique community effort

**Gavin Schmidt**

Forward modelling of proxies during abrupt climate change events

The conference programme will be complemented by roundtable discussions, a “talk show” on abrupt climate changes and poster sessions, including brief presentations of posters.