

## Scientific programme

### Wednesday, March 15:

Arrival in Rio Gallegos at the International Airport. A bus of the Universidad Nacional de la Patagonia Austral (UNPA) will serve as a shuttle between airport and hotel. If the bus should not be available, please take a taxi to the Costa Rio Apart Hotel.

21:30h Get together (meeting at the hotel)

### Thursday, March 16:

#### Welcome

09:00h Bernd Zolitschka & Hugo Corbella: Opening of the ICDP-Workshop PASADO

09:10h Welcome addresses

- Ing. Héctor Aníbal Billoni (Rector of the Universidad Nacional de la Patagonia Austral, Rio Gallegos – UNPA)
- Eduardo Quargnolo (Director of Instituto Nacional de Tecnología Agropecuaria – INTA Santa Cruz)
- Ing. Francisco Anglesio (Subsecretario de Medio Ambiente e Ministerio de Economía y Obras Publicas de Santa Cruz, Rio Gallegos)

#### Regional background information

09:40h Bernd Zolitschka et al.: Water at “world’s end” – Laguna Potrok Aike: Introduction to an old and deep lake in southernmost Patagonia (Santa Cruz, Argentina)

10:00h Hugo Corbella: The Pali Aike Volcanic Field

10:20h Andrea Coronato & Jorge Rabassa: Glacial history of Patagonia, Southern South America.

10:40h Eduardo Piovano & Daniel Ariztegui: Cold-dry vs. warm-wet events in the South American extratropics since the Last Glacial Maximum

#### 11:00h Coffee break

11:30h Gervasio Humano & Gabriel Oliva: Modern vegetation in the Pali Aike Volcanic Field

11:50h Marta Paez: Modern regional pollen rain in southern Patagonia – a pollen trap study to provide background information for pollen-based climate reconstruction (in Spanish)

12:10h Elizabeth Mazzoni et al.: Lake level fluctuations during the last decades in southern Patagonia – an approach using satellite images (in Spanish)

12:30h Christoph Mayr et al.: Precipitation origin and evaporation of lakes inferred from stable isotopes ( $\delta^{18}\text{O}$ ,  $\delta^2\text{H}$ ) in southeastern Patagonia (Argentina)

12:50h Luis Borrero: The archaeology of the Pali Aike lava field

13:10h Gabriel Oliva, Guillermo Clifton & Liliana Gonzalez: Scientific background and aims of INTA research at Potrok Aike

**13:30h Lunch Break**

**Limnogeological results from Laguna Potrok Aike**

- 15:00h Daniel Ariztegui, Flavio Anselmetti & Marc de Batist: High-resolution pinger, airgun and sparker seismic surveys in Laguna Potrok-Aike: Imaging the sediment infill prior to deep drilling
- 15:20h Frank Niessen & Catalina Gebhardt: Deep seismic survey at Laguna Potrok Aike
- 15:40h Sabine Wulf, Torsten Haberzettl et al.: Tephrochronology of Laguna Potrok Aike sediments
- 16:00h Christian Ohlendorf: Lake level fluctuations at Laguna Potrok Aike and how they are recorded in the sediments
- 16:20h Torsten Haberzettl: Sediment core from the center of Laguna Potrok Aike covering 16,000 years – 1. coring, chronology and sedimentology

**16:40h Coffee break**

- 17:10h Andreas Lücke et al.: Sediment core from the center of Laguna Potrok Aike covering 16,000 years – 2. Potentials and experiences of stable isotope approaches
- 17:30h Nora Maidana: Sediment core from the center of Laguna Potrok Aike covering 16,000 years – 3. Diatoms and paleoenvironmental reconstructions
- 17:50h Michael Wille et al.: Sediment core from the center of Laguna Potrok Aike covering 16,000 years – 4. Late Glacial and Holocene vegetation and climate history of the Pali Aike Volcanic Field inferred from a 17 m pollen profile
- 18:10h Frank Schäbitz et al.: Sediment core from the center of Laguna Potrok Aike covering 16,000 years – 5. Pollen-based approach of qualitative and quantitative climate reconstruction
- 18:30h Martin Widmann et al.: Downscaling of climate simulations for comparison with climate reconstructions from Laguna Potrok Aike records (presented by ?)
- 18:50h Bernd Zolitschka: Perspectives for PASADO

**21:30h Dinner**

**Friday, March 17:**

**Field trip to Laguna Potrok Aike**

- 08:00h Departure from the hotel to the one-day field trip to Laguna Potrok Aike. Bring warm clothes as well as wind, sun and rain protection (just to be prepared – the weather can change instantly!) and sturdy shoes for off-road walking. Packed lunches and drinks will be provided; an Asado (BBQ) will be prepared for early dinner, departure from the field is anticipated for about 19h, return to Rio Gallegos is scheduled for 21h. For the fieldtrip please consult the excursion guide in this volume.

## **Saturday, March 18:**

### **The International Continental Scientific Drilling Program (ICDP)**

- 09:00h Ulrich Harms: Funding and support through the International Continental Scientific Drilling Program (ICDP)
- 09:15h Dennis Nielson: GLAD800 Drilling in Laguna Potrok Aike, Argentina
- 09:30h Daniel Ariztegui et al.: Reconstructing late Quaternary environmental change in the lowland neotropics – The Lake Petén-Itza Drilling Project (January-March 2006)

### **Understanding the evolution of maar volcanoes**

- 09:45h Marcelo Paterlini & Hugo Corbella: Magnetometric survey of Laguna Potrok Aike
- 10:00h Ulrike Martin & Helga de Wall: Reconstruction of the volcanic history of the Potrok Aike Maar: Part 1: Volcanological and sedimentological characterization of volcanoclastic units
- 10:15h Helga de Wall & Ulrike Martin: Reconstruction of the volcanic history of the Potrok Aike Maar: Part 2: Rock physical and geochemical characterization of volcanoclastic units
- 10:30h Miguel J. Haller et al.: Understanding the evolution of maar craters

### **Deciphering high-frequency environmental variations**

- 10:45h Thomas Wonik: Physical properties, structural features, and climate signals in lake sediments and phreatomagmatic breccias of the Potrok Aike Maar derived from downhole logging
- 11:00h Coffee break**
- 11:30h Pierre Francus & Scott Lamoureux: Microfacies characterization using image analysis, physical and chemical properties for understanding sedimentary processes and reconstructing climate at high-resolution at Laguna Potrok Aike
- 11:45h Juergen Thurow et al.: High-frequency climate variability in Laguna Potrok Aike

### **History of volcanic eruptions and dating of the sediment record**

- 12:00h Christel van den Bogaard: Tephrochronology - A high potential correlation tool in palaeoenvironmental investigations
- 12:15h Stefan Wastegard: Tephrochronology in the North Atlantic region – a potential to link marine, terrestrial and ice-core records from the last glacial cycle

### **Reconstruction of the Earth's magnetic field and characterization of minerogenic sediment fractions**

- 12:30h Laurie Brown: Magnetic Studies at Laguna Potrok Aike
- 12:45h Guillaume St-Onge & Pierre Francus: CT-scan image analysis and magnetic properties at Laguna Potrok Aike
- 13:00h Lunch Break**

## **Reconstruction of lacustrine and catchment-related environmental conditions**

- 15:00h Cathy Whitlock, Maria Martha Bianchi & Vera Markgraf: Understanding the links between fire, vegetation, and climate change in Patagonia: records and opportunities
- 15:15h Hedi Kling: Non-siliceous microfossils in paleolimnological reconstruction
- 15:30h Beata Messyasz: Phytoplankton and algal microfossils in the crater lake Laguna Azul
- 15:45h Julieta Massaferro: Fossil chironomids (Insecta – Diptera) as indicators of environmental change in Laguna Potrok Aike, Argentina
- 16:00h Isabelle Larocque: Potrok Aike Lake Sediment Archive Drilling Project, southernmost Argentina (PASADO): chironomid analysis (represented by Pierre Francus)
- 16:15h Reinhard Pienitz & Finn Viehberg: Diatoms and ostracods as palaeoclimate proxies in the Laguna Potrok Aike sediment record
- 16:30h María Virginia Mancini: Vegetation and climatic conditions in the southeast of Patagonia, Argentina
- 16:45h Aldo R. Prieto et al.: Magallanes maar fossil pollen record re-interpreted by using a pollen-climate calibration model
- 17:00h Coffee break**

## **Tracing atmospheric dust and volcanic aerosols**

- 17:30h Diego Gaiero, Barbara Villoslada & Santiago Gassó: Dust sources and westerly storms in Patagonia: Comparison of in situ measurements with remote sensing estimations
- 17:45h Martin Fleisher: Isotopic investigations at Laguna Potrok Aike sediments to determine recent sedimentation rates and dust fluxes
- 18:00h Kyeong J. Kim, A. J. Tim Jull & Mineo Imamura: Study of paleoclimate change using cosmogenic nuclides produced in the atmosphere
- 18:15h Paul Vallelonga et al.: Lead (Pb) and Strontium (Sr) isotopic composition for reconstructions of dust fluxes and volcanic aerosols

## **Human impact and modelling**

- 18:30h Ramiro Barberena & Fabiana M. Martin: Bones in Pali Aike – The Late Holocene archaeological record of Cónдор and Potrok Aike localities
- 18:45h Horatio Toniolo: Numerical modelling of sedimentation processes in Laguna Potrok Aike – Argentina
- 21:30h Dinner**

## **Sunday, March 19:**

### **Break-up groups to discuss the concerted action with regard to the drilling proposal (due: January 15, 2007) and envisaged scientific aims**

To allow everybody to participate in at least two different break-up groups, two blocks are scheduled. Each break-up group has to appoint a rapporteur who will minute the session (e.g. what methods will be applied, in case of sediment-related analyses: amount of sample material needed, scientific aims) and present the summary report.

### **Meeting of the different break-up groups**

- 09:00h
  - 1. Scientific drilling
  - 2. Logging techniques
  - 3. Volcanology and pre-lacustrine sediments
  - 4. Other aspects
    - 4.1 Process studies
    - 4.2 Archaeology
    - 4.3 Modelling
- 10:45h Coffee break**
- 11:15h
  - 5. Lacustrine sediment facies
    - 5.1 Dating
    - 5.2 Sedimentology
    - 5.3 Magnetic studies
    - 5.4 Isotopic investigations
    - 5.5 Microfossils
      - 5.5.1 Pollen
      - 5.5.2 Chironomids
      - 5.5.3 Diatoms and other algae
- 13:00h Lunch break**
- 15:00h Rapporteurs: Presentation of summary reports from break-up groups
- 15:45h Discussion
- 16:45h Coffee break**
- 17:15h Discussion and preparation of the scientific background for the formal proposals to funding agencies
- 18:45h Vera Markgraf: Wrap-up session
- 19:30h Closing remarks
- 21:30h Farewell Dinner**

## **Monday, March 20:**

Departure from Rio Gallegos (at any time)