PROGRAMME OF SESSIONS

MONDAY, 25 AUGUST 2003

09:30–10:30h

Opening of Symposium

Giuseppe Orombelli, Head of Local Organizing Committee (University of Milano Bicocca)
Jo Jacka, Secretary of SCAR Standing Scientific Group on Physical Sciences and Annals of Glaciology Chief Editor
Carlo Alberto Ricci, President, Antarctic Scientific Italian Committee PNRA (University of Siena)
Magnús Már Magnússon, Secretary General, International Glaciological Society
Claudio Smiraglia, Presedent, Italian Glaciological Committee (University of Milano)

10:30–12:30h

Session 1A: Ice sheet dynamics

Chairman: R. Bindschadler

J. Oerlemans: The Antarctic ice sheet in different climates: results from simple modelling
C. Martín, F. Navarro, J. Otero, M.L. Cuadrado, M.I. Corcuera: Three-dimensional modelling of the dynamics of Johnsons glacier (Livingston Island, Antarctica)
P. Huybrechts, O. Rybak, F. Pattyn, D. Steinhage: Simulation of ice-dynamic properties around the EPICA DML drill site with a nested Antarctic ice sheet model
P. Cianfarra, C. Bianchi, A. Forieri, F. Salvini, I.E. Tabacco: Influence of regional tectonics on ice patterns in Dome C area, East Antarctica
D. Samyn, S.J. Fitzsimons, R.D. Lorrain: Ice deformation effects on the gas composition of the basal ice from Taylor Glacier (Dry Valleys, Antarctica)
G. Casassa, A. Rivera, C. Acuña, H.H. Brecher, H. Lange: Elevation change and ice flow at Horseshoe Valley, Patriot Hills

Session 1B: Snow/ice/atmosphere interaction

Chairman: E.W. Wolff

H.-W. Jacobi, B. Kwakye-Awuah, O. Schrems: Photochemical decomposition of hydrogen peroxide (H_2O_2) and formaldehyde (HCHO) in artificial snow
R. Udisti, S. Becagli, S. Benassai, E. Castellano, I. Fattori, M. Innocenti, A. Migliori, R. Traversi: Atmosphere–snow interaction by a comparison between aerosol and uppermost snow layers composition at Dome C (East Antarctica)
A.J. McMorrow, T.D. van Ommen, V. Morgan, M.A.J. Curran: Ultra high resolution seasonality of trace ion species and oxygen isotope ratios over four annual cycles
V. Morgan, T.D. van Ommen, S. Woon: Snow accumulation and Isotope ratio patterns on Law Dome, East Antarctica
M.R. Albert and U.K. Leeman: Variations in snow and firn permeability at sites along the U.S. International Trans-Antarctic Science Expedition
E. Schlosser, C.H. Reijmer, H. Oerter, W. Graf: The influence of origin of precipitation on the $\delta^{18}O$–*T* relationship at Neumayer Station, Ekströmisen, Antarctica

14:00–15:20h

Session 2A: Ice sheet dynamics

Chairman: R.H. Thomas

B. Mügge and R. Greve: Computation of the age of ice in the Antarctic ice sheet by solving the advective age equation
L. Placidi, S.H. Faria, K. Hutter: On the role of grain growth, recrystallization and polygonization in a continuum theory for anisotropic ice sheets
F. Rémy and B. Legrésy: Subglacial hydrological networks in Antarctica and their impact on ice flow
S. Mager, S. Fitzsimons, R. Frew: Comparison of the composition and origin of basal ice in cold and polythermal glaciers

Session 2B: Snow/ice/atmosphere interaction

Chairman: K.J. Kreutz

K. Dias da Cunha, H. Evangelista, K.C.D. Pereira, J. C. Simões, C. V. Barros Leite: Spatial deposition pattern of airborne particles in an Antarctic glacier
M. R. van den Broeke and N. van Lipzig: Changes in Antarctic temperature, wind and precipitation in response to the Antarctic Oscillation
M. Albert, C. Shuman, Z. Courville, R. Bauer, M. Fahnestock, T. Scambos: Extreme firn metamorphism: impact of decades of vapor transport on near-surface firn at a low-accumulation site on the East Antarctic Plateau
T. Neumann and E.D. Waddington: Effects of firn ventilation on isotopic exchange
S.A. Sokratov and V.N. Golubev: The isotopic content change in snow as a result of evaporation

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16:10–17:30h

Session 3A: Ice sheet dynamics *Chairman: F. Rémy*

R.H. Thomas, E.J. Rignot, K. Kanagaratnam, W.B. Krabill, G. Casassa: Force-perturbation analysis of Pine Island Glacier suggests cause for recent acceleration

R. Bindschadler, M. King, P. Vornberger: Possible stick-slip mechanism for Whillans Ice Stream, Antarctica

M. Schmeltz and E. Rignot: On the effect of grounding-line retreat and ice-shelf removal on the ice flow of Pine Island Glacier, West Antarctica

H. Engelhardt: Thermal regime and dynamics of the West Antarctic ice sheet

A.J. Payne and A. Vieli: Using Ice-Flow models to constrain the cause of the observed thinning of Pine Island Glacier, West Antarctica

Session 3B: Snow/ice/atmosphere interaction *Chairman: C. Barbante*

A.J. Gow, D. Meese, R. Bialas: Accumulation variability, density profiles and crystal growth trends in ITASE firn and ice cores from West Antarctica

D. Vaughan: Near-surface layering and persistent spatial variability in wind-borne re-distribution of snow

C. Truzzi, L. Lambertucci, S. Illuminati, G. Scarponi: Direct measurement of Antarctic aerosol mass to improve studies on snow/air relationships

K. Kaspers: Derived seasonal cycles of trace gases from firn air, Dronning Maud Land Antarctica

TUESDAY, 26 AUGUST 2003

08:30–09:10h

Plenary lecture

B. Stauffer: The EPICA deep ice cores: first results and perspectives

09:20–10:40h

Session 4A: Ice sheet dynamics *Chairman: D. MacAyeal*

B. Paschke, N. Blindow, M.A. Lange: Flow dynamics of the temperate ice cap on western King George Island, Antarctica

T.A. Scambos, H. Conway, G. Catania, C.F. Raymond: Present-day ice flow near Kamb Ice Stream: today's slow waltz reveals a tango of past events

A. Hubbard, W. Lawson, B. Anderson, B. Hubbard, H. Blatter: Evidence for temperate sub-glacial conditions in the terminus region of Taylor Glacier, Dry Valleys, Antarctica

P.G. Burkett and S. Anandakrishnan: Strain-rate enhanced recrystallization hypothesised from seismic reflection profile

Session 4B: Long-term records from ice cores *Chairman: H. Oerter*

B. Delmonte, J.-R. Petit, V. Maggi: EPICA-DOME C Ice Core Dust: origin and variability in the late Quaternary

Y. Fujii, M. Kohno, S. Matoba, O. Watanabe: A 140 k-year record of dust flux at Dome Fuji, Antarctica and its climatological interpretation

F. Marino, V. Maggi, B. Delmonte, G. Ghermandi, J.R. Petit: Atmospheric dust elemental composition (Si, Fe, Ti) of the last 220ka from the EPICA ice core (Dome C, Antarctica).

T. Hinkley and A. Matsumoto: Long-term constancy of atmospheric deposition material to Antarctica: indications from lead (Pb) isotopes

I. Baker, R. Obbard, J.M. Chang, D. Cullen: SEM/EDS Studies of the microstructural location of impurities in polar ice

11:30–12:40h

Poster session

Climate change and atmosphere chemistry during the last 200-1000 years

M.J. Zhang, J.W. Ren, Z.Q. Li, C.D. Xiao, D.H. Qin, J.C. Kang, J. Li: 250 years of oxygen isotope and chemical records in a firn core from Princess Elizabeth Land, East Antarctica

K.J. Kreutz, N.A.N. Bertler, P.J. Barrett, P.A. Mayewski, D.S. Introne: Changes in Dry Valleys, Antarctica moisture source inferred from snowpit deuterium excess values

J.W. Ren, J.Y. Sun, D.H. Qin: Ionic concentration in snow-pits in the hinterland along the Zhongshan-Dome A traverse route, Antarctica

L. Pruett, K. Kreutz, M. Wadleigh, P. Mayewski, A. Kurbatov: Sulfur isotopic measurements from a West Antarctic ice core: implications for sulfate source and transport

N.A.N. Bertler, M. Watson, G. Hamilton, P.J. Barrett, P.A. Mayewski: Past and present mass balance and ice flow characteristics of Victoria Lower Glacier, McMurdo Dry Valleys

R. Mulvaney, S. Bernard and members of the CRYOSTAT consortium: Extraction of firn air from Berkner Island, Antarctica

P. Vallelonga, C. Barbante, G. Cozzi, V. Gaspari, J.-P. Candelone, K. van de Velde, V.I. Morgan, K.J.R. Rosman, C.F. Boutron, P. Cescon: Elemental indicators of natural and anthropogenic aerosol inputs to Law Dome, Antarctica

E. Cosme, C. Genthon, P. Martinerie, M. Legrand, C. Hoose: A three-dimensional study of methanesulfonic acid (MSA) to non sea salt sulfate (NSS) ratio in the middle and high southern latitudes

Ice sheet mass balance

N. Sidorenkov, O.V. Luzenko, N.N. Bryazgin, E.I Alexandrov, V.G. Zakharov: Changes in the Antarctic and the Greenland ice sheet mass and the instability of the earth's rotation over the last 110 years

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D.B. Stone and B. Raup: Snow accumulation as a function of altitude in the Ellsworth Mountains: potential implications for the assessment of net surface mass balance in Antarctica
D.H. Qin, C.D. Xiao, I. Allison, B. Lingen, R. Stephenson, J. Ren, Y. Ming: Snow surface height variations on the Antarctic ice sheet in Princess Elizabeth Land, Antarctica: one year of data from an automatic weather station
C. Xiao, I. Allison, J. Ren, D. Qin, M. Zhang, Z. Li: Meteorological and glaciological evidence for different climatic variations on the eastern and western sides of Lambert Glacier basin, Antarctica
V.A. Pohjola, J. Hedfors, P. Holmlund: Investigation of the balance flux on a small tributary glacier in Heimefrontfjella, D.M.L., Antarctica
Yu.Ya. Macheret, F. Navarro, A.F. Glazovsky, E.V. Vasilenko, I.I. Lavrentiev: Ice thickness and bedrock characteristics along the main ice divides of Livingston Island (Antarctica) retrieved from ground-based radar profiling
S.A. Arcone, V.B. Spikes, G. Hamilton, P.A. Mayewski: Stratigraphic continuity in 400-MHz short-pulse radar profiles of firn in West Antarctica
T. Haran and T.A. Scambos: A new DEM of central West Antarctica: local variations in temperature related to topography
P. Holmlund, I. Brown, J.-O. Näslund, R. Pettersson: Balanced flow of the Veststraumen Ice Stream, Dronning Maud Land, Antarctica
F. Rémy and B. Legrésy: Random fluctuations of the ice sheets boundary conditions
G. Diolaiuti, C. Smiraglia, G. Vassena, M. Motta: Dry calving processes at the ice cliff of an Antarctic local glacier: the study case of Strandline Glacier (northern Victoria Land, Antarctica)
L.A. Stearns, K.C. Jezek, C.J. van der Veen: Decadal scale variations along Whillans Ice Stream, West Antarctica
R.J. Arthern, D.P. Winebrenner, D.G. Vaughan: Antarctic snow accumulation mapped using polarisation of 6.7-GHz microwave emission
P. Skvarca, H. de Angelis, E. Ermolin: Mass balance of "Glaciar Bahia del Diablo", Vega Island, Antarctic Peninsula
G. Hamilton: Topographic control of regional accumulation rate variability at South Pole and implications for ice core interpretation
J. Bohlander, R. Bauer, T. Scambos, E. Berthier, B. Raup, G. Scharfen: Antarctic Glaciological Data at NSIDC: field data, temperature, and ice velocity
W. Rack, D. Steinhage, U. Nixdorf, H. Miller: Mass flow of outlet glaciers in Dronning Maud Land, Antarctica, derived from SAR interferometry and radio echo sounding
M. Pokar and M.J. Siegert: Englacial ice sheet structure and past accumulation rates at the ice divide in West Antarctic from analysis of ice penetrating radar

Ice shelf / ocean interaction

G. Giorgetti and K-042: Sediments under the McMurdo/Ross Ice Shelf, Windless Bight, Antarctica
B. Legrésy, F. Rémy, A. Poetzsch, R. Dietrich, I.E. Tabacco: Interaction of floating ice with tides: example of the Mertz Glacier, Antarctica
B. Riedel and C.S.M. Doake: An elastic model for the description of the influence of ocean tides on the Brunt Ice Shelf, Antarctica
C. Hulbe, R. Johnston, I. Joughin, T. Scambos: Marine ice modification of fringing ice-shelf flow
H. Corr, A. Jenkins, H. Gudmundsson, S. Craig, K. Nicholls: Measurement of vertical strain by phase sensitive radar
U. Nixdorf , P.J. Barrett , G.B. Dunbar, L. Carter, G. Giorgetti, F. Niessen, A.R. Pyne, N. Robinson, C. Riesselman, E. Dunker, H. Miller: Multidisciplinary investigation of McMurdo-Ross Ice Shelf and the underlying ocean and sediments at Windless Bight, Antarctica, by means of hot-water drilling
D. MacAyeal, C. Hulbe, T. Scambos, M. Fahnestock: Ice-shelf fragment capsize as a factor in the break-up of Larsen Ice Shelf (B), Antarctica

Remote sensing

R. Stosius and U.C. Herzfeld: Geostatistical methods for combination of radar altimeter data and SAR data applied to Lambert Glacier/Amery Ice Shelf
L. Kaleschke and G. Heygster: Towards multisensor microwave remote sensing of frost flowers on sea ice
I.C. Brown and T.A. Scambos: Satellite monitoring of changes in blue ice extent near Byrd Glacier, Antarctica
A. Cagnati, M. Valt, R. Casacchia, R. Salvatori, M. Frezzotti: Relationship between field reflectance and physical structure of snow/ice surfaces: the results of four Antarctic expeditions
A. Humbert and T.A. Scambos: A mean annual ice surface temperature distribution for the Ross Ice Shelf, Antarctica
J.G. Ferrigno, R.S. Williams Jr., K.M. Foley: Coastal-change and glaciological map of the Saunders Coast area, Antarctica, 1972-1997
G. Rotschky, O. Eisen, F. Wilhelms, H. Oerter, W. Rack: Spatial characteristics of accumulation patterns on the Amundsenisen plateau, Antarctica, derived from combined data sets
G. Hamilton and B. Spikes: Assessing the performance of a satellite-altimeter derived digital elevation model of Antarctica using precision kinematic GPS profiling
J.S. Kargel, A. Gillespie, B. Molnia: Comparison of temperate, Antarctic polar, and Martian debris-covered glaciers and rock glaciers
A. Rivera, G. Casassa, J. Araos, F. Senia: Subglacial topography and internal structure of the ice sheet at Patriot Hills
D. Six, M. Fily, P. Henry, S. Warren, R. Brandt, P. Goloub: The Antarctic Ice Sheet as a calibration target for solar spectrum satellite radiometers

Subglacial lakes

C. Bianchi, A. Forieri, I.E. Tabacco: Electromagnetic reflecting properties of sub-ice surfaces
V. Lee, M.J. Siegert, P.D. Bates, M. Tranter: On the methods of modelling water circulation in subglacial lakes
M. Studinger, R.E. Bell, G.D. Karner: Estimating the depth and shape of lake Vostok's water cavity from aerogravity data
E.W. Blake and S. Bélanger: Sterile penetration and sampling of subglacial lakes
F.A.M. Planchon, C. Barbante, C.F. Boutron, S. Bulat, P. Cescon, G. Cozzi, A. Dommergue, C. Ferrari, P. Gabrielli, J.R. Petit: Initial results on trace elements in the deepest part of the Vostok ice core, Antarctica: information on the sub-glacial lake environment

14:00–15:20h

Session 5A: Glacial and periglacial geomorphology

Chairman: D. Drewry

C. Baroni, A. Biasini, A. Bondesan, A. Cimbelli, M. Frezzotti, M. Meneghel, G. Orombelli, M.C. Salvatore, I.E. Tabacco, L. Vittuari: Antarctic Geomorphological and Glaciological 1:250,000 map series. Mt. Murchison Quadrangle (northern Victoria Land)
J.C. Simões, M. Braun, H. Saurer, Y.Ya. Macheret, A. Aristarain: Glaciology of King George Island

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C. Atkins and W. Dickinson: Landscape modification by meltwater channels at margins of cold-based glaciers; Dry Valleys, Antarctica
N.R.J. Hulton, M. Hagdorn, D.E. Sugden, S.S.R. Jamieson: Modelling ice sheet-geomorphology interactions, Lambert basin, East Antarctica
A Forieri, L. Zuccoli, A. Bini, A. Zirizzotti, F. Rémy, I.E. Tabacco: New Bedrock Map and Morphostructural Interpretation of Dome C Area

Session 5B: Long-term records from ice cores *Chairman: V. Morgan*

F. Parrenin, F. Rémy, M. J. Siegert, C. Ritz, J. Jouzel: New modelling of the Vostok ice flow line
A.N. Salamatin, E.A. Tsiganova, V. Ya. Lipenkov, J.R. Petit: Vostok (Antarctica) ice-core time scale from datings of different origins
R.A. Rankin, E. Wolff, R. Mulvaney: A reinterpretation of sea salt records in Greenland and Antarctic ice cores
M.M. Helsen, R.S.W. van de Wal, M.R. van den Broeke, E.R.Th. Kerstel, V. Masson-Delmotte, H.A.J. Meijer, C.H. Reijmer, M.P. Scheele: Modelling the isotopic composition of snow using backward trajectories: a particular precipitation event in Dronning Maud Land, Antarctica
A.N. Salamatin, V.Ya. Lipenkov, T. Hondoh: Air-hydrate crystal growth in polar ice

16:10–18:00h

Poster session (presentation as listed above)
Climate change and atmosphere chemistry during the last 200–1000 years
Ice sheet mass balance
Ice shelf/ocean interaction
Remote sensing
Subglacial lakes

WEDNESDAY, 27 AUGUST 2003

08:30–9:10h

Plenary lecture

M. Frezzotti: Mass balance of the Antarctic ice sheet: an overview

09:20–10:20h

Session 6A: Ice sheet mass balance *Chairman: P. Huybrechts*

C. Genthon: Space-time Antarctic surface mass balance variability from climate models
E. Rignot, R. Thomas, G. Casassa, A. Rivera, W. Krabill, P. Kanagaratnam, T. Akins, H. Brecher, E. Frederick, P. Gogineni, S. Manizade, H. Ramamoorth, R. Russell, J. Sonntag, R. Swift, J. Yungel: Results from the CECS/NASA Fall 2002 airborne deployment in West Antarctica
V.B. Spikes, G.S. Hamilton, S.A. Arcone, S. Kaspari, P. Mayewski: Causes of accumulation variability in Antarctica
D. Morse, D.D. Blankenship, E.D. Waddington: Radar evidence for migration of the Ross/Amundsen ice flow divide of the West Antarctic ice sheet

Session 6B: Long-term records from ice cores *Chairman: J. Jouzel*

E.W. Wolff, M. Bigler, M. de Angelis, H. Fischer, M. Hansson, R. Mulvaney, R. Röthlisberger, J-P Steffensen, R. Udisti: How should we interpret chemical concentrations in central Antarctic ice cores?
C. Barbante, V. Gaspari, P. Cescon, G. Cozzi: Changes in aluminium, manganese and iron concentrations in Antarctic (Dome C) ice during the last 44,000 years
H. Oerter , W. Graf , H. Meyer, F. Wilhelms: EPICA ice core Dronning Maud Land: first results from measurements of stable isotope contents
R. Mulvaney, J.M Barnola, D. Raynaud, D. Wagenbach, E.W. Wolff: Potential for a deglaciation climate history of the Weddell Sea region from Berkner Island, Antarctica

11:10–12:10h

Session 7A: Ice sheet mass balance *Chairman: J. Oerlemans*

G.J.-M.C. Leysinger Vieli, M.J. Siegert, A.J. Payne: Reconstructing ice sheet accumulation rates at Ridge B, East Antarctica
L.A. Stearns and G.S. Hamilton: Using ASTER satellite imagery to derive ice velocities: Byrd Glacier, East Antarctica
M. Kaczmarska, E. Isaksson, L. Karlöf, J.-G. Winther, F. Godtliebsen, L.R. Olsen, C.M. Hofstede, M.R. van den Broeke, R.S.W. van de Wal, N. Gundestrup: Accumulation variability derived from an ice core from coastal Dronning Maud Land, Antarctica
D. P. Winebrenner, E.J. Steig, D.P. Schneider: Temporal co-variation of surface and microwave brightness temperatures in Antarctica, with implications for the observation of surface temperature variability using satellite data

Session 7B: Paleoclimate at the millennial scale *Chairman: J. Palais*

P. Gabrielli, C. Barbante, G. Cozzi, F. Planchon, C. Ferrari, C.F. Boutron: Heavy metals in polar ice: looking for traces of cosmic dust along the last climate cycles
B. Stenni, V. Masson-Delmotte, J. Jouzel, A. Longinelli, E. Selmo, O. Cattani, S. Johnsen: The d excess record from EPICA-Dome C ice core
J. Jouzel, O. Cattani, S. Cherrier, G. Dreyfus, S. Falourd, V. Masson, B. Stenni, A. Longinelli, S.J. Johnsen, F. Parrenin, R. Souchez, J. Schwander, B. Stauffer, J.P. Steffenssen, E. Wolff: The new EPICA Dome C deuterium record
T.D. van Ommen, V. Morgan, M.A.J. Curran: Deglacial and Holocene changes in accumulation at Law Dome

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13:30–19:00h

Half-day tour to Lake Como and a city tour of Milan

THURSDAY 28 AUGUST 2003

08:30–9:30h

Plenary lecture

P. Mayewski: The International Trans Antarctic Scientific Expedition (ITASE) – an overview
R. Bindschandler: The International Polar Year in 2007/2008

09:40–10:40h

Session 8A: Climate change and atmosphere chemistry during the last 200–1000 years *Chairman: M. van den Broeke*

T.H. Jacka, W.F. Budd, A. Holder: A further assessment of surface temperature changes at stations in the Antarctic and Southern Ocean – 1949 to 2002
J. Zwally and others: Antarctic mass balance from satellite altimetry
O. Magand, M. Frezzotti, M. Pourchet, B. Stenni, L. Genoni, M. Fily: Climate variability along latitudinal and longitudinal transepts in East Antarctica (ITASE Project)
E. Isaksson, M. Kaczmarska, L. Karlöf, J-G. Winther, H. Fischer, N. Gundestrup, C. Hofstede, M. van den Broeke, R.S.W. van de Wal, M. Pourchet, E. Meyerson: Two millennium of climate variability in eastern Dronning Maud Land

Session 8B: Remote sensing *Chairman: T. Scambos*

M.R. Drinkwater, G. Ratier, D.J. Wingham, R. Francis: The European Space Agency's Earth Explorer Mission CryoSat: measuring variability in the cryosphere
D.M. Rippin, J.L. Bamber, M.J. Siegert, D.G. Vaughan, H.F.J. Corr: The role of ice thickness and bed properties on the dynamics of the enhanced flow tributaries of Bailey Ice Stream and Slessor Glacier, East Antarctica
B. Legrésy, F. Rémy, F. Papa: Mapping the snowpack structure of the polar ice caps with dual frequency ENVISAT radar altimeter
O. Eisen, F. Wilhelms, D. Steinhage, U. Nixdorf, H. Miller: Interpretation of airborne radar data with synthetic radargrams

11:30–12:40h

Poster session

Glacial and periglacial geomorphology – Permafrost in Antarctica – Meteorites and ice

A. Bondesan, M. Meneghel, C. Baroni, A. Biasini, G. Orombelli, M.C. Salvatore: Geomorphological map of the Northern Foothills and Inexpressible Island (Victoria Land, Antarctica)
R. Vieira and J.C. Simões: Central Patagonia and King George Island (Antarctica) fjords: a possible non-climatic response to the tidewater glaciers dynamic
A.G. Lewkowicz and M. Guglielmin: Formation and distribution of frozen mounds associated with ponds and lakes in continuous permafrost (northern Victoria Land, East Antarctica)
R. Raffi, B. Stenni, O. Flora, S. Polesello, M. Camusso: Growing Processes of an Inland Antarctic Ice Wedge (Mesa Range, northern Victoria Land)
E. Ermolin, H. de Angelis, P. Skvarca, F. Rau: Ground ice in permafrost on Seymour (Marambio) and Vega Islands, Antarctic Peninsula
P. Curzio, L. Folco, M. Mellini, A. Zeoli: The Frontier Mountain blue ice field (Antarctica): stratigraphic and glaciodynamic constraints from paired englacial tephra layers

Ice sheet dynamics

D. Iliescu and I. Baker: Recrystallization, grain boundary chemistry and properties of ice
S.H. Faria and S. Kipfstuhl: Preferred slip band orientations and bending observed in the Dome Concordia ice core
J. Hedfors and V.A. Pohjola: Ice flux of Plogbreen, a small ice stream in Dronning Maud Land, Antarctica
J.G.J.-M.C. Leysinger Vieli, R. Hindmarsh, M.J. Siegert: A statistical analysis of internal radio-echo layer tracing
H. Maeno, S. Fujita, K. Matsuoka, T. Furukawa: Scattering of depolarised VHF radio waves from within the ice sheet: theory and experiment in the vicinity of Dome F summit, Antarctica
A. Sinisalo, A. Grinsted, J. Moore: Blue ice dynamics in Scharffenbergbotnen, Antarctica
P. Cianfarra and F. Salvini: Modelling ice flow kinematics and deformation by HCA numerical method
D. Morse, H. Conway, K. Cuffey: Radar surveys of Taylor Glacier, Transantarctic Mountains, East Antarctica
M. Frezzotti, G. Bitelli, P. de Michelis, A. Deponti, A. Forieri, S. Gandolfi, V. Maggi, F. Mancini, F. Rémy, I.E. Tabacco, S. Urbini, L. Vittuari, A. Zirizzotti: Geophysical survey at Talos Dome (East Antarctica): the search for a new deep-drilling site
Saito Fuyuki and Ayako Abe-Ouchi: Antarctic Ice Sheet and Dome Fuji: their dependence on boundary conditions, and the change during the ice age cycle
O. Rybak and P. Huybrechts: Application of particle tracing methods in time-dependent simulations of the Antarctic ice sheet
B.K. Lucchitta, C.E. Rosanova and J. Ferrigno: Increase in velocity on Pine Island Glacier ice shelf
L. Vittuari, C. Vincent, M. Frezzotti, F. Mancini, S. Gandolfi, G. Bitelli, A. Capra: Space geodesy as a tool for measuring ice surface velocity at the Dome C site and between Terra Nova Bay and Dome C (East Antarctica)
Weili Wang, Li Jun, J. Zwally: Study of the effect of the variation in anisotropic flow properties on the ice-sheet surface elevation change
M.J. Siegert and M. Pokar: Thre-dimensional ice sheet structure across the Byrd Station network measured by ice penetrating radar
Min Song, D.M. Cole, I. Baker: Initial experiments on the effect of particles at grain boundaries on the anelasticity and creep behaviour of granular ice

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F. Saito and A. Abe-Ouchi: Thermal structure of Dome Fuji and East Queen Maud Land, Antarctica, simulated by a three-dimensional ice sheet model

Long-term records from ice cores - Paleoclimate at the millennial scale

Y. Fujii, M. Kohno, S. Matoba, S. Fujita: Reconstruction of past explosive volcanic eruptions based on significant electrical conductivity signals found in an ice core from Dome Fuji, Antarctica

C. Salvi, G. Salvi, B. Stenni, A. Brambati: Paleoenvironmental aspects in the Ross Sea during the last 15 ky BP: a comparison between sediment and ice cores

K. Satow, O. Watanabe, Y. Fujii, K. Kamiyama, H. Motoyama, T. Furukawa, M. Igarashi, S. Kanamori: Some features of periodicities of palaeo climatic records extracted from Dome Fuji deep core

Y. Iizuka, M. Takata, S. Fujita, T. Hondoh, Y. Fujii: Short-term fluctuations of soluble ions in the last glacial period of the Dome Fuji ice core

A. Deponti and V. Maggi: Talos Dome age vs. depth modelling

E. Castellano, S. Becagli, S. Benassai, A. Migliori, M. Severi, R. Traversi, R. Udisti: High resolution, continuous 250-kyrs record of chloride, nitrate and sulphate by FIC analysis of EPICA-Dome C (EDC96 and EDC99) ice cores

R. Udisti, S. Becagli, S. Benassai, M. de Angelis, M.E. Hansson, J. Jouzel, J. Schwander, J.P. Steffensen, R. Traversi, E. Wolff: Sensitivity of chemical species to climatic changes in the last 45 kyrs as revealed by high resolution Dome C (Antarctica) ice core analysis

E. Castellano, S. Becagli, S. Bellandi, A. Migliori, J. Schwander, M. Severi, J.P. Steffensen, R. Traversi, R. Udisti: Paleo-volcanic reconstruction of the last two glacial-interglacial cycles from EPICA-Dome C (EDC96 and EDC99)

M. Igarashi, S. Kanamori, K. Goto-Azuma, O. Watanabe: Sea salt deposition records of Dome Fuji ice core

E. Waddington, E. Brook, D. Morse, H. Conway, B. Barnett: Interpolation of sparse depth-age data in ice cores, and inference of accumulation-rate history: an inverse approach

M. Kohno, Y. Fujii, T. Hirata: Chemical composition of volcanic glasses in visible tephra layers found in a 2503 m deep ice core from Dome Fuji, Antarctica

M. Takata, Y. Iizuka, T. Hondoh, S. Fujita, Y. Fujii, H. Shoji: Stratigraphy analysis of Dome Fuji Antarctic ice core using optical scanner

R. Traversi, C. Barbante, V. Gaspari, I. Fattori, O. Largiuni, L. Magaldi, R. Udisti: Aluminium and iron record for the last 29 kyrs derived from the EDC96 ice core using new CFA methods

G. Cavagnero, A. Rossi, M. Zangirolami: Temperature of deep cold boreholes and probe for thermal logging

B. Narcisi, J.R. Petit, I. Basile-Doelsh, B. Delmonte, V. Maggi: Tephra layers in the EPICA-Dome C ice record: initial results and source inferences

M. Severi, S. Becagli, S. Benassai, E. Castellano, A. Migliori, R. Udisti: Tentative stratigraphic dating by seasonal pattern of very high-resolution sulphate profile in EPICA-DML ice core (Kohnen Station – East Antarctica)

Snow/ice/atmosphere interaction

H. Motoyama, K. Kamiyama, T. Shiraiwa, T. Saito, T. Kameda, N. Azuma, S. Fujita, Y. Fujii, K. Suzuki, T. Yamada, T. Suzuki, Y. Iizuka, T. Furukawa, K. Nishimura, S. Kanamori, O. Watanabe: Regional characteristics of surface snow chemistry at East Dronning Maud Land, Antarctica

E. Kärkäs: Spatial distribution of snow grain size and shape in western Dronning Maud Land, Antarctica

E. Kärkäs, A. Virkkula, K. Teinilä, M. Aurela: Spatial distribution of the surface snow chemistry during the austral summer in western Dronning Maud Land, Antarctica

C. Truzzi, L. Lambertucci, A. Annibaldi, G. Gambini, S. Becagli, R. Traversi, R. Udisti, G. Scarponi: Sources of Antarctic aerosol in Victoria Land identified by means of principal component analysis of chemical data

U. Leeman and M. Albert: Microstructure and permeability in the near-surface firn near a potential U.S. deep drilling site in West Antarctica

B.T. Smith, T.D. van Ommen, M.A.J. Curran: MSA movement in solid ice

S. Becagli, M. Proposito, S. Benassai, O. Flora, L. Genoni, R. Gragnani, O. Largiuni, S.L. Pili, M. Severi, B. Stenni, R. Traversi, R. Udisti, M. Frezzotti: Chemical and isotopic snow variability in East Antarctica along the 2001/02 ITASE traverse

H. Evangelista, J.C. Simões, N.R. Rigozo: El Niño and solar signal records observed from wavelet analysis of deuterium/hydrogen ratios from King George Island/Antarctic Peninsula ice core

H. Motoyama, N. Hirasawa, K. Satow, O. Watanabe: Seasonal variation of oxygen isotope ratio in snowfall and its change in quality at Dome Fuji Station, Antarctica

T.A. Scambos, R. Bauer, M.A. Fahnestock, M. Albert, C. Shuman: Antarctic snow megadunes: morphology and internal layering

V.N. Golubev and S.A. Sokratov: The effect of seasonal variation of climatic conditions on snow-firn metamorphism in the central part of the Antarctic ice sheet

T. Suzuki, K. Nishiizumi, Y. Fujii: Spatial variability of Be isotopes in surface snow over east Dronning Maud Land, Antarctica

L. Motta and M. Motta: Distribution and modality of superficial melting processes at the local glaciers of Terra Nova Bay coast

J.Y. Sun, J.W. Ren, Z.Q. Li, D.H. Qin: Chemical composition of aerosols in East Antarctica

14:00–15:40h

Session 9A: Climate change and atmosphere chemistry during the last 200-1000 years *Chairman: E. Isaksoon*

A.A. Ekaykin, V.Ya. Lipenkov, I.N. Kuzmina, J.R. Petit, V. Masson-Delmotte, S.J. Johnsen: The changes in isotope composition and accumulation of snow at Vostok Station over the past 200 years

D. Dixon, P. Mayewski, S. Kaspari, S. Sneed, M. Handley: A 200-year sub-annual record of the primary sources of sulfate in West Antarctica

T. McCormack, U. Ruth, R. Mulvaney, C. Arrowsmith, G. Littot: Chemical and isotopic gradient across Berkner Island, Antarctica, from a series of shallow ice cores

U. Ruth, D. Wagenbach, R. Mulvaney, H. Oerter, W. Graf, H. Pulz, G. Littot: Comprehensive 1000-year climatic history from an intermediate depth ice core from the Berkner Island South Dome - methodics, dating, and first results

S. Kaspari, P.A. Mayewski, D.A. Dixon, V.B. Spikes, S.B. Sneed, M.J. Handley, G.S. Hamilton: Climate variability in West Antarctica derived from annual accumulation rate records from ITASE firn/ice cores

N.A.N. Bertler, P.A. Mayewski, P.J. Barrett, S.B. Sneed, M.J. Handley, K.J. Kreutz: Monsoonal circulation of the McMurdo Dry Valleys

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Session 9B: Remote sensing *Chairman: M. Fily*

M.R. Drinkwater, N. Floury, M. Tedesco: L-band Antarctic ice-sheet brightness temperatures at Dome C: spectral emission modelling, temporal stability and impact of the ionosphere

A. Shepherd, D. Wingham, T. Payne, P. Skvarca: Ocean melting beneath the Larsen ice shelf

F. Rau, F. Mauz, H. de Angelis, R. Jaña, J.A. Neto, P. Skvarca, S. Vogt, H. Saurer, H. Gossmann: Variations of glacier frontal positions on the northern Antarctic Peninsula

D. Steinhage, S. Kipfstuhl, U. Nixdorf, H. Miller: Internal structure of the ice sheet between Kohnen Station and Dome Fuji revealed by airborne radio-echo sounding

J. Wuite and K. Jezek: Variability in the velocity field and flow regime of Drygalski Ice Tongue and David Glacier, Northern Victoria Land, Antarctica

16:30–18:00h

Poster session (presentation as listed above)

Glacial and periglacial geomorphology – Permafrost in Antarctica – Meteorites and ice

Ice sheet dynamics

Long-term records from ice cores – Paleoclimate at the millennial scale

Snow/ice/atmosphere interaction

FRIDAY 29 AUGUST 2003

08:30–09:10h

Plenary lecture

J.C. Priscu: Subglacial lakes have changed our view of Antarctica

09:20–10:00h

Session 10A: Subglacial lakes *Chairman: I.E. Tabacco*

J.R. Petit: The water cycle in Lake Vostok: melting rate, thermohaline circulation, accretion processes and the energy balance constraints

A. Hori, T. Hondoh, V. Ya. Lipenkov: Ice lattice distortion along the deepest section of the Vostok core from X-ray diffraction measurements

G. Royston-Bishop, M. Tranter, M.J. Siegert, V. Lee, P.D. Bates: Is lake Vostok in chemical and physical steady-state?

Session 10B: Ice shelf/ocean interaction *Chairman: D. Vaughan*

A. Humbert, R. Greve, K. Hutter: Advanced simulations of the ice flow of the Ross Ice Shelf, Antarctica

D.D. Blankenship, D.L. Morse, M.E. Peters, S.D. Kempf, J.W. Holt: Ice-ocean interactions for iceberg B15a from airborne radar sounding

M. Craven, I. Allison, R. Brand, A. Elcheikh, J. Hunter, M. Hemer, S. Donoghue: Initial borehole results from the Amery Ice Shelf hot water drilling project

11:10–12:10h

Session 11A: Subglacial lakes *Chairman: J-R. Petit*

A. Tikku, R. Bell, M. Studinger: Melting, freezing and ice flow at Lake Vostok: analysis of ice-penetrating radar data

S. Carter, D.D. Blankenship, D.L. Morse: Quantifying melt rates over sub-glacial Lake Concordia based on the deformation of internal layers

K. Neumann, W.B. Lyons, J.C. Priscu, D.J. DesMarais, K.A. Welch: The carbon isotopic composition of dissolved inorganic carbon in perennially ice-covered Antarctic lakes: searching for a biogenic signature

F. Pattyn, B. de Smedt, R. Souchez: A 3d numerical model of ice-flow across subglacial lake Vostok, Antarctica

Session 11B: Ice shelf/ocean interaction *Chairman: E. Rignot*

I. Joughin and D. Vaughan: Marine ice beneath the Filchner Ronne Ice Shelf: a comparison of estimated thickness distributions

J. Bassis, R. Coleman, H.A. Fricker, N. Young, B. Minster: Dynamics of a propagating rift on the Amery Ice Shelf, East Antarctica

W. Rack and H. Rott: Pattern of retreat and disintegration of Larsen B ice shelf, Antarctic Peninsula

P. Skvarca, H. de Angelis, A.F. Zakrajsek: Climatic conditions, mass-balance and dynamics of Larsen B Ice Shelf, Antarctic Peninsula, prior to collapse

14:00–14:40h

Session 12A: Meteorite and ice/Permafrost in Antarctica *Chairman: C. Baroni*

L. Folco and M. Mellini: The meteorite concentration mechanism at the Frontier Mountain blue ice field (Antarctica): state of the art and outstanding issues

W. Dickinson, C. Atkins, R.S. Sletten: Occurrences of ground ice in the Dry Valleys, Antarctica

M. Guglielmin and H.M. French: Ground ice in the Northern Foothills (Northern Victoria Land, Antarctica)

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Session 12B: Ice shelf/ocean interaction - Sea ice processes and sea ice-atmosphere-ocean interaction

Chairman: P. Skvarca

M. Heinert and B. Riedel: A parametric model of ice-ocean interaction in the grounding zone – derived from extremely short time series

I.J. Smith, R.D. Frew, P.J. Langhorne, M.R. Vennell, T.G. Haskell: Oxygen isotope measurements and incorporated platelet ice in McMurdo Sound, Antarctica

T. Kawamura, M.O. Jeffries, J.-L. Tison, H.R. Krouse: Austral summer melt/freeze cycles in snow and superimposed ice formation at the top of Ross Sea pack ice floes

15:00h

Closing of Symposium

Giuseppe Orombelli, Head of Local Organizing Committee (University of Milano Bicocca)
Jo Jacka, SCAR Standing Scientific Group on Physical Sciences Secretary, Annals of Glaciology Chief Editor
Elisabeth M. Morris, President, International Glaciological Society
Magnús Már Magnússon, Secretary General, International Glaciological Society

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