

14th Alpine Glaciology Meeting

Milano, Italy, 25th–26th March 2010

Sala di Rappresentanza
Via Festa del Perdono 7
Milano



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The AGM 2010 takes advantage from the national research program PRIN 2008 "*Climate Change effects on glaciers, permafrost and derived water resource. Quantification of the ongoing variations in the Italian Alps, analysis of their impacts and modelling future projections*" which partially supported the meeting organization.

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PROGRAM 14th AGM 2010 MILANO

25th MARCH 2010

	Chairman	Contribution 	Session	Presenting authors 	Affiliation
8.45 -9.15	AGM opening - IGS Report by M.M. Magnusson				
9.15 - 9.30		Primary dispersal of supraglacial debris and debris-cover formation at alpine glaciers	oral	<u>M. Kirkbride</u> (1) and <u>P. Deline</u> (2)	(1) University of Dundee; (2) University of Chambéry
9.30 - 9.45		Quantifying the effects of debris on a glacier surface	oral	<u>T. Reid</u> and B. Brock	University of Dundee
9.45 - 10.00		Contribution of the surface velocity analysis to distinguish creep typology (debris-covered/rock glacier) on a complex paraglacial system Case study from Glacier Bonnard, Valais	oral	<u>E. Bardou</u> , G. Favre-Bulle, P. Ornstein and J.D. Rouiller	CREALP (Alpine Environment Research Center) Sion
10.00 - 10.15		Analysis of surface energy fluxes and application of an energy based ablation model to Venerocolo Debris-Covered Glacier (Adamello Group)	oral	<u>C. Mihalcea</u> (1), D. Bocchiola (2), G. Diolaiuti (1), B. Mosconi (1), C. Smiraglia (1) and R. Rosso (2)	(1) University of Milan; (2) Politechnic of Milan
10.15 - 10.30		GlaRiskAlp, a French-Italian project (2010-2013) on glacial hazards in the Western Alps in relation with the glacier retreat	oral	<u>P.Deline</u> and the GlaRiskAlp team	The GlaRiskAlp team (Italian and France parties)
10.30- 11.00	Coffee break 				
11.00 - 11.15		Large scale climatological controls of the mass balance of tropical Lewis Glacier, Mt Kenya, East Africa	oral	<u>R. Prinz</u>	Institut fuer Geographie University of Innsbruck
11.15 - 11.30		6 months of meteorological data from Lewis Glacier, Mt Kenya: computed surface energy and mass change compared to measured surface change	oral	<u>L. Nicholson</u> and R. Prinz	Institut fuer Geographie University of Innsbruck
11.30 - 11.45		Still unrevelaed secrets in the ice on Kibo	oral	<u>G. Kaser</u>	Institut fuer Geographie University of Innsbruck
11.45 - 12.00		New mass balance and glacier monitoring studies in Colombia and Peru	oral	<u>C. Huggel</u> , J. L. Ceballos, W. Silverio and C. Portocarrero	Presenting author from Department of Geography University of Zurich
12.00 - 12.15		Glaciological, meteorological and atmospherical,investigations on the Changri Nup Glacier (Nepal, Himalaya): a interdisciplinary project to study the impact of atmospheric soot on high elevation glacier melting	oral	<u>E. Vuillemoz</u> (1), A. Marinoni (2), P. Bonasoni (2), G.P. Verza(1), G. Diolaiuti (3) and C. Smiraglia (3)	(1) EvK2CNR Committee Bergamo; (2) CNR-ISAC Bologna, (3) University of Milan
12.15 - 12.20		Empirical-statistical downscaling of reanalysis data to high-resolution air temperature and specific humidity above a glacier surface (Cordillera Blanca, Peru)	poster	<u>M. Hofer</u>	Center for Climate and Cryosphere University of Innsbruck
12.20 - 12.25		The SHARE- Automatic Weather Station (AWS) in Africa, Mt. Rwenzori (Uganda) as key element to study environmental changes	poster	<u>E. Vuillemoz</u> (1), G.P. Verza (1), R. Toffolon (1), A. Lami (3) and P. Bonasoni (2)	(1) EvK2CNR Committee Bergamo, (2) CNR-ISAC Bologna (3) CNR ISE
12.25 - 12.30		New investigations on glacier geometry at Fedchenko Glacier, Pamir	poster	<u>C. Mayer</u> , A. Lambrecht, A. Surazakov and V. Aizen	Kommission für Glaziologie, Bayerische Akademie der Wissenschaften
12.30 14.00	Lunch time 				

14.00 - 14.15		Snow accumulation distribution inferred from time-lapse photography and simple modelling	oral	D. Farinotti	VAW ETH Zurich
14.15 - 14.30		Lautaret full-scale avalanche experimental site terrestrial photogrammetry: preliminary developments	oral	A. Soruco , E. Thibert, C. Vincent, R. Blanc and R. Heno	Presenting author from CEMAGREF - ETNA Grenoble, France
14.30 - 14.45		Glacier volume changes at Mt. Everest (Nepal/Tibet) 1962-2007 based on multi-temporal digital elevation models	oral	T. Bolch	Department of Geography University of Zurich
14.45 - 15.00		A new glacier inventory for the European Alps from Landsat TM scenes of 2003: Challenges and first results	oral	F. Paul , H. Frey and R. LeBris	University of Zurich
15.00 - 15.15		Airborne Laser Scanning and the third Austrian Glacier Inventory	oral	J. Abermann	University of Innsbruck
15.15 - 15.20		Experimental monitoring of the Grandes Jorasses serac with low-cost GPS technologies	poster	C. Lucianaz (2), F. Diotri (1), M. Roggero (2) and M. Vagliasindi (1)	(1) Fondazione Montagna Sicura Courmayeur, Aosta; (2) Polytechnic of Turin
15.20 - 15.25		Mapping the World's glaciers and icecaps from space: Results from the ESA project GlobGlacier	poster	F. Paul , G. Bippus, K. Casey, H. Frey, A. Käab, R. LeBris, E. Rinne, H. Rott, A. Shepherd, T. Strozzi and F.M. Seifert	University of Zurich
15.25 - 15.30		Analysis of 1954-2003 aerial photos. 50 years of glacier changes in the Val Viola glacierized basin (central Italian Alps).	poster	D. Maragno , G. Diolaiuti, C. D'Agata, D. Bocchiola and C. Smiraglia	University of Milan
15.30 - 15.35		Analysis of 1983-2003 aerial photos. 20 years of glacier changes in the Ortles Cevedale group (central Italian Alps)	poster	D. Maragno , G. Diolaiuti, C. D'Agata, D. Bocchiola and C. Smiraglia	University of Milan
15.35 - 16.00	Coffee break 				
16.00 - 16.15		Calculation of energy and mass exchanges at the Forni Glacier tongue, Ortles-Cevedale Group (Stelvio National Park, Italian Alps) by analyzing a 4-year record of meteorological data	oral	A. Senese , G. Diolaiuti, C. Mihalcea and C. Smiraglia	University of Milan
16.15 - 16.30		Mass balance variability at Hallstätter Glacier since 1856	oral	K. Helfricht	IMG I - Institute of Meteorology & Geophysics University of Innsbruck
16.30 - 16.45		Characterisation of ice dynamics and internal age distribution at Colle Gnifetti by combining ground penetrating radar horizons with simple flow modelling	oral	P. Bohleber (1), O. Eisen (1,2), R. Drews (2), A. Heilig (1) and D. Wagenbach (1)	(1) Insitut für Umweltphysik, University of Heidelberg; (2) Alfred-Wegener-Institut für Polar und Meeresforschung, Bremerhaven
16.45 - 17.00		Squeezing more information out of Time Variable Gravity data for Glaciers mass balance at regional scale.	oral	A. Bordoni , V.R. Barletta and R. Sabadini	University of Milan
17.00 - 17.15		Parameterization of the glacier inventory data from Jotunheimen, South Norway, in comparison with the European Alps and New Zealand since the maximum of the 'Little Ice Age'.	oral	S. Baumann	Universität Würzburg
17.15 - 17.30		Geophysical techniques to measure the hydrothermal structure of Storglaciären, Sweden	oral	A. Gusmeroli (1), T. Murray (1), P. Jansson (2), R. Pettersson (3), A. Aschwanden (4) and A. D. Booth (1).	(1) Swansea University (2) Stockholm University (3) Uppsala University (4) University of Alaska Fairbanks
17.30 - 17.35		Vibroseismics on ice: First results and implications from Antarctic measurements	poster	A. Lambrecht , C. Mayer , C. Hofstede, Y. Kristoffersen, R. Blenkner, L. Kindermann, R. Drews, D. Jansen, N. Neckel, R. Witt and O. Eisen	Kommission für Glaziologie, Bayerische Akademie der Wissenschaften
17.35 - 17.40		Seismics on a cold alpine saddle – Limits and Challenges	poster	A. Diez (1), C. Hofstede (1) and O. Eisen (1,2)	(1) Alfred-Wegener-Institut für Polar und Meeresforschung, Bremerhaven (2) Insitut für Umweltphysik, University of Heidelberg
17.40 - 17.45		Mass balance at a regional scale - the case study of Lombardy glaciers - preliminary results	poster	F. Villa (1)(3), L. Bonardi (2)(3), R. Scotti (1)(3), A. Tamburini (2)(4) and A. Toffaletti (3)	(1) University of Milan Bicocca; (2) University of Milan; (3) Lombardy Glaciological Service; (4) Imageo Srl
17.45 - 17.50		Experiments to reduce snow and ice ablation on Dossè Est Glacier (central Italian Alps)	poster	B. Mosconi (1), D. Maragno (1), G. Diolaiuti (1), E. Meraldi (2) and C. Smiraglia (1)	(1) University of Milan (2) ARPA Lombardia
17.50 - 17.55		Calculation of snow accumulation and redistribution on glaciers	poster	Luca Carturan (1), Federico Cazorzi (2), Marco Borga (1) and G. Dalla Fontana (1)	(1) Agripolis, University of Padua (2) University of Udine
17.55 - 18.00		Laserscan measurements to determine the ablation at the debriscovered part of the Hintereisferner	poster	M. Juen	IMG I - Institute of Meteorology & Geophysics University of Innsbruck
18.00 - 18.30	Poster attendance				

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9.00 - 9.15		Validation of the glacier model "Surges" with the example of Vernagtferner and Schneeferner	oral	<u>K. Marowsky</u> and M. Weber	Kommission für Glaziologie, Bayerische Akademie der Wissenschaften
9.15 - 9.30		Relative contribution of snow and ice melt in the Upper Danube discharge today and in the future	oral	M. Weber, M. Prasch and <u>L. Braun</u>	Kommission für Glaziologie, Bayerische Akademie der Wissenschaften
9.30 - 9.45		Modelling distributed glacier ablation: a comparison of a distributed energy balance and a distributed enhanced temperature index models	oral	<u>M. Carenzo</u> , F. Pellicciotti, R. Dadic and P. Burlando	Institute of Environmental Engineering Swiss Federal Institute of Technology - ETH Zurich
9.45 - 10.00		Energy balance of the Mandrone glacier under current climate and climate change scenarios	oral	<u>G. Grossi</u> , P. Caronna and R. Ranzi	University of Brescia
10.00 - 10.15		Inventory and analysis of new-formation glacial lakes in Aosta valley	oral	<u>A. Théodule</u> (1), G. Bal (2), A. Godio (2) and M. Vagliasindi (1)	(1) Fondazione Montagna Sicura Courmayeur, Aosta; (2) Politechnic of Turin
10.15 - 10.30		New lakes in de-glaciating high-mountain areas: climate-related development and challenges for sustainable use	oral	<u>M. Künzler</u> , <u>W. Haerberli</u> , C. Huggel, A. Linsbauer, H. Müller, T. Lehmann, A. Schleiss, F. Jordan and M. Bütler	Department of Geography, University of Zurich
10.30- 11.00	Coffee break 				
11.00 - 11.15		Effect of global warming on glacial lakes: a review with special reference to Eastern Nepal	oral	<u>F. Salerno</u> (1), C. D'Agata (2), C. Smiraglia (2) and G. Tartari(1)	(1) CNR IRSA Brugherio, Milan; (2) University of Milan
11.15 - 11.30		Hydrological characterization of an ice-contact lake: Miage Lake (Monte Bianco, Italy)	oral	<u>M. Masetti</u> , G. Diolaiuti, C. D'Agata and C. Smiraglia	University of Milan
11.30 - 11.35		Downscaling of GCM snowfall for climate change impact assessment: a case study in Italy	poster	<u>B. Groppelli</u> , D. Bocchiola and R. Rosso	Politechnic of Milan
11.35 - 11.50		Results from recent investigations on Lys Glacier (Monte Rosa Group, Italy): 1975-2003 geometry changes, debris influence and calculation of melting amount	oral	<u>B. Mosconi</u> , C. D'Agata, G. Diolaiuti, C. Mihalcea and C. Smiraglia	University of Milan
11.50 - 12.05		Permafrost research in Piedmont (Italy): the PERMANET monitoring network	oral	<u>L. Paro</u> (1) and M. Guglielmin (2)	(1) Arpa Piemonte, (2) University of Insubria
12.05 - 12.20		Effects of reduced snow precipitations and population density on Alpine ibex dynamics in Gran Paradiso National Park: An age-structured approach	oral	<u>A. Mignatti</u> (1), R. Casagrandi (1), A. Provenzale (2), B. Bassano (3) and M. Gatto (1)	(1) Politechnic of Milan; (2) ISAC: Institute of Atmospheric Sciences and Climate, CNR, Turin; (3) Parco Nazionale Gran Paradiso, Italy
12.20 - 12.35		Alpine debris-covered glaciers as a habitat for plant life	oral	<u>M. Caccianiga</u> , C. Andreis, G. Diolaiuti, C. D'Agata, C. Mihalcea and C. Smiraglia	University of Milan
12.35 - 12.40		New rock glaciers inventory of Aosta Valley: methodology and first results	poster	<u>M. Curtaz</u> (1), M. Vagliasindi (1), U. Morra di Cella (2), P. Pogliotti (2) and S. Letey (3)	(1) Fondazione Montagna Sicura Courmayeur, Aosta; (2) ARPA Valle d'Aosta; (3) University of Turin
12.40 - 12.45		Permafrost research in Upper Valtellina in the last 10 years	poster	M. Guglielmin (1) and <u>N. Cannone</u> (2)	(1) University of Insubria; (2) University of Ferrara
12.45 - 12.50		A relational database for automatic weather station data	poster	<u>M. Großhauser</u>	Institut fuer Geographie University of Innsbruck
12.50 - 12.55		Diversity of bacterial communities in the debris cover of Miage and Belvedere glaciers	poster	<u>A. Franzetti</u> (1), R. Ambrosini (1), I. Gandolfi (1), V. Bertolini (1), C. Mihalcea (2), C. D'Agata (2), G. Diolaiuti (2) and G. Bestetti (1)	(1) University of Milano Bicocca; (2) University of Milan
13.00 - 13.05		Consequences and feedbacks of climate change impacts on vegetation distribution and CO2 fluxes in alpine environments	poster	<u>N. Cannone</u>	University of Ferrara
13.05 - 14.00	Lunch time 				

14.00 - 14.15	Recent glaciological investigations on Mt. Ortles (Tyrolean Alps)	oral	<u>L. Carturan</u> (1), P. Gabrielli (2), J. Gabrieli (3), C. Barbante (3), G. Dalla Fontana (1), R. Dinale (4), H. Hausmann (5), K. Krainer (6), P. Rastner (7), R. Seppi (8), H. Staffler (4) and L. Thompson (2)	(1) University of Padua; (2) The Ohio State University; (3) University Ca' Foscari of Venice; (4) Provincia Autonoma di Bolzano; (5) University of Technology, Vienna; (6) University of Innsbruck; (7) EURAC, Institute of Applied Remote Sensing; (8) University of Pavia
14.15 - 14.30	Post 17th-Century Changes of European PAH Emissions Recorded in High-Altitude Alpine Snow and Ice	oral	<u>J. Gabrieli</u> (1,2,3), P. Vallenga (3,4), G. Cozzi (1,3), M. Sigl (5,6,7), F. Decet (2), M. Schwikowski (5,6,7), H. Gaggeler (5,6,7), C. Boutron (8), P. Cescon (1,3) and C. Barbante (1,3)	(1) University Ca' Foscari of Venice; (2) Environmental Protection Agency of Veneto (ARPAV); (3) IDPA-CNR, University of Venice; (4) Now at: University of Copenhagen; (5) Paul Scherrer Institut (PSI); (6) University of Bern; (7) University of Bern; (8) Laboratoire de Glaciologie et Geophysique de l'Environnement
14.30 - 14.45	Snowcover Survey of an Alpine Type Glacier in High Latitude (Austre Lovénbreen, Svalbard, 79°N)	oral	<u>E. Bernard</u> (1), F. Tolle (1), M. Griselin (1), D. Laffly (2) and Ch. Marin (3)	(1) CNRS UMR ThéMA, université de Franche-Comté; (2) CNRS UMR Géode, Université Toulouse Le Mirail; (3) CNRS UMR IDES, université Paris-Sud, Orsay
14.45 - 14.50	A one-century long firn/ice core climate record from Mt. Rosa (Colle del Lys, 4250 m a.s.l.)	poster	<u>C. Mazzola</u> , V. Maggi, S. Albani and B. Delmonte	University of Milano Bicocca
14.50 - 14.55	Ice core proxies as indicators of moisture source areas for the Alps	poster	<u>I. Mariani</u>	Paul Scherrer Institut, Villigen
14.55 - 15.00	Seasonal deposition of atmospheric trace elements to the Vedretta Alta dell'Ortles, the highest glacier of the Eastern Alps	poster	<u>J. Gabrieli</u> (1,2), <u>L. Carturan</u> (3), <u>P. Gabrielli</u> (4), <u>G. Cozzi</u> (2), <u>C. Turetta</u> (2), <u>G. Dalla Fontana</u> (3), <u>R. Dinale</u> (5), <u>H. Staffler</u> (5), <u>L. Thompson</u> (4) and <u>C. Barbante</u> (1,2)	(1) University Ca' Foscari of Venice; (2) IDPA-CNR, Venice; (3) University of Padua; (4) The Ohio State University; (5) Ufficio Idrografico - Provincia Autonoma di Bolzano
15.00 - 15.05	Evaluation of the Bavarian glaciers using new surveyings	poster	<u>E. Mayr</u> (1), W. Hagg (1) and C. Mayer (2)	(1) University of Munich; (2) Kommission für Glaziologie Bayerische Akademie der Wissenschaften
15.05 - 15.10	Distributed modelling of energy fluxes and mass budget on the surface of Langenferner, Ortleralps/Italy	poster	<u>S. Galos</u>	Institut fuer Geographie University of Innsbruck
15.10 - 15.15	Glacier geomorphosites changes and their relationship with tourist exploitation and educational applications	poster	<u>I. Bollati</u> , V. Garavaglia and M. Pelfini	University of Milan
15.15 - 15.20	Changing glaciers in a changing climate: how vanishing geomorphosites have been driving deep changes in mountain landscapes and environments	poster	G. Diolaiuti and <u>C. Smiraglia</u>	University of Milan
15.20 - 15.25	Post Little Ice Age climate change impacts on hydrological and glacio-geomorphological processes in high-mountain environments derived from proxy-based reconstructions: the project	poster	<u>G. Leonelli</u> and M. Pelfini	University of Milan
15.25 - 15.30	Glacier stream activity in the proglacial area of miage debris covered glacier (aosta valley, western italian alps): an application of dendroglaciology	poster	<u>V. Garavaglia</u> and M. Pelfini	University of Milan
15.35 - 15.40	Preliminary study of bacterial community in Alpin Madaccio Glacier ice by culture-dependent and culture-independent methods and determination of PCB's content	poster	Cappa F.(1), Garagnani P.(3), Delledonne M. (3), Zanetti M. (2), Trevisan M. (2) and Cocconcelli P.S. (1)	(1) Istituto di Microbiologia-CRB, UCSC Piacenza-Cremona; (2) Istituto di Chimica Agraria ed Ambientale, UCSC Piacenza-Cremona; (3) Universita' degli Studi di Verona