



**Chairman:****Session 2: Mountain meteorology II**

14:15	Rajiv Kumar Das, Neelam Rup Prakash, Rajesh Kumar Garg	013	Design of a new contact-less counter type tipping bucket rain gauge and an antifreeze-based attachment for measurement of rain and snow precipitation.
14:35	Neeraj Sharma, Rajesh Kumar Garg, Hemraj Sharma	020	Failure data analysis of automatic weather station and meteorological sensor network in the North Western Himalayas
14:55	M.S. Shekhar, Sanjeev Kumar, Harish Chand, K. Srinivasan, A. Ganju	084	Climate change studies over Western Himalayan region
15:15	Sanjeev Kumar, H.S. Thakur, K. Srinivasan, P. Joshi, A. Ganju, Dinesh Kumar	086	Performance of MM5 model during winter months
15:35	K. Srinivasan, M. Sudhanshu Shekhar, A. Ganju, Dinesh Kumar, H.S. Thakur	083	Numerical simulation of severe weather events over North West Himalaya using two different mesoscale models
15:55	<b>Refreshments</b>		

**Chairman:****Session 3: Snow properties I**

16:15	M.A. Hopkins, Thomas U. Kaempfer	064	CRREL Microstructural Snow Modeling
16:35	P.K. Srivastava, Puneet Mahajan, P.K. Satyawali, Vinod Kumar	068	Observation of temperature gradient metamorphism and simulation of linear elastic properties of snow using computed microtomography
16:55	T. U. Kaempfer, M.Plapp	063	Study and Modeling of Snow Metamorphism and Thermal Conductivity at the Micro-Structural Scale: A Phase-Field Approach
17:15	M. Schneebeli, J.B. Johnson, C. Pielmeier, H.-P. Marshall, L. Arnaud, S. Bellaire, K.W. Birkeland, E.R. Lutz, P.K. Satyawali, J. Schweizer	101	A review of theory and applications of high-resolution penetrometry in snow
17:35	Nirmal K. Sinha	127	Glaciology to gas-turbine engine materials science – a rheological journey
17:55	<b>Adjournment</b>		

19:30

**BANQUET**

**TUESDAY, 7 April 2009**

<b>Chairman:</b>			
<b>Session 4: Snow properties II</b>			
08:30	J.C. Kapil, Chandrika Prasher, Prem Datt, P.K. Satyawali	016	Modeling for growth of melt-freeze clusters under controlled environment with radiation generated by sun simulator
08:50	Alexey Ekaykin, Sergey Sokratov	097	Experimental study of water stable isotopes evolution due to metamorphism and sublimation
09:10	Chaman Chandel, Praveen Srivastava	076	Anisotropic behaviour of Greater Himalayan snow
09:30	Onni Järvinen	027	Laboratory experiments on light transfer through snow pack
09:50	Pramod K. Satyawali, Martin Schneebeli	011	Spatial scales of snow texture as indicator for snow class
10:10	<b>Refreshments</b>		

<b>Chairman:</b>			
<b>Session 5: Snow cover</b>			
10:40	Cora Shea, Bruce Jamieson	028	Star: An efficient and comparably accurate snow point-sampling method
11:00	James L. McCreight, Hans-Peter Marshall, Jeffery S. Deems	067	Non-stationarity and process scale partitioning of snow depth fields
11:20	H.-P. Marshall, J.A. Gleason, J.L. McCreight, C.C. Landry, G. Koh	103	Spatial variability of snow stratigraphy, depth, and SWE in an alpine basin – high resolution measurements using portable radar
11:40	S. K. Dewali, P.K. Satyawali	017	Contribution of turbulent fluxes in ablation of seasonal snowpack in Indian Himalaya
12:00	P.S. Negi, Prem Datt, P.K. Satyawali	070	Analysis and comparison of a 3 years meteorological data, albedo, the surface energy balance and ablation of Greater Himalayan range
12:20	<b>Lunch</b>		

<b>Chairman:</b>			
<b>Session 6: Snow and snow cover properties</b>			
14:00	S. K. Singh, A.V. Kulkarni, B.S. Chaudhary	044	Hyperspectral analysis of snow reflectance to understand the effects of contamination and grain size
14:20	Ramesh P. Singh, Anup K. Prasad, Ritesh Gautam, Senthil Kumar J, Waseem Mehdi, M. Kafatos	114	Increasing dust loading and its relation with the declining trend of the Western Himalayan snow cover
14:40	A.V. Kulkarni, B.P. Rathore, S.K. Singh	038	Distribution of seasonal snow cover in Central and Western Himalaya
15:00	Sergey A. Sokratov, Anna N. Kurchatova, Hanno Meyer	112	Stable water isotopes content of snowfalls in Yamal peninsula, West Siberia, Russia
15:20	R.N. Sarwade, Ganesh Kumar	034	Design of re-circulating wind tunnel for snowdrift simulation
15:40	<b>Refreshments</b>		

<b>Chairman:</b>			
<b>Session 7: Avalanche formation and snow stability</b>			
16:10	Novaline Jacob, Amreek Singh, P.V. Radhadevi, A. Ganju, J. Saibaba, Varadan Geeta, R.N. Sarwade	118	Modeling snow avalanche using multi-criteria decision making and cellular automata methods
16:30	Puneet Mahajan, Raghavendra Kalakuntla, Chaman Chandel	054	Simulation of crack growth initiation in layered snow
16:50	David McClung	012	Critical length measurements for dry snow slab shear fracture
17:10	Jürg Schweizer, J. Bruce Jamieson	105	Field observations for assessing snowpack instability
17:30	Laura Bakermans, Bruce Jamieson, Jürg Schweizer, Pascal Haegeli	106	Using stability tests and regional avalanche danger to estimate the local avalanche danger
17:50	<b>Adjournment</b>		

**WEDNESDAY, 8 April 2009**

07:00–13:00

**EXCURSION**

Field study tour to Dhundi research site

Lunch

13:00–14:00 Return to SASE

				<b>Chairman:</b>
<b>Poster Session 1. Short presentations</b>				
14:00	Evgeny A. Podolskiy, Pavel A. Chernous, Osamu Abe, Kouichi Nishimura, Nikolay V. Barashev	003	Experimental study of vibration and shear loading rate influences on snow shear strength and their role in seismicity-induced avalanche release	
14:02	J.C. Kapil, Anupam Kumar, P.S. Negi	015	Mid-winter spatial distributions of melt water saturations leading to formations of crusts in a snowpack, using a parallel probe saturation profiler	
14:04	Ganesh Kumar, R.N. Sarwade, Amod Kumar	035	Snow profile originated by snow fence in Himalayan region: a case study	
14:06	Peter Höller, Reinhard Fromm	050	On the quantification of the hand hardness test	
14:08	Gulab Singh, G.Venkataraman, Snehmani	058	Snow cover classification using full polarimetric ALOS PALSAR data	
14:10	James L. McCreight, Andrew G. Slater, Rajagopalan Balaji	072	So bad they're good: Model diagnostic signatures from poor parameter and model behavior	
14:12	Amreek Singh, P.K. Satyawali, P.K. Srivastava, Harish Tomar, Praveen Kumar, P.S. Negi	098	Snow cover simulation as a tool for stability assessment: a case study	
14:14	P. Chernous, N. Barashev, Yu. Fedorenko	113	On temporal and spatial variability of the characteristics controlling snow stability and avalanche release	
14:16	J.C. Joshi, Ashwagosha Ganju	115	Study of snow settlement to assess snow pack depth of lower and middle climatic zones of North-West Himalayas	
14:18	A.K. Tomar, P.S. Negi, C. Chandel, P. Datt	120	Variation of shear strength of snow with liquid water content	
14:20	Rakesh Kaur, Anil V. Kulkarni, B.S. Chaudhary	009	Analysis of snow cover and snowline altitude variations in Baspa Basin	
14:22	H.S. Gusain, Devi Chand, Narinder Thakur, Amreek Singh, Ashwagosha Ganju	022	Snow avalanche climatology of Indian Western Himalaya	

14:24	Justyna Dudek, Jorge Gines	062	Area, ice elevation and frontal changes of the Bungebreen glacier in Spitsbergen, based on remotely sensed and field data
14:26	Aparna Shukla, R.P. Gupta, M.K. Arora, A.V. Kulkarni	080	Discrimination of supraglacial and periglacial debris using combined optical and thermal remote sensing data
14:28	Tobias Jonas, Christian Rixen, Matthew Sturm, Veronika Stoeckli	094	How alpine plant growth is linked to snow cover and climate variability
14:30	P.S. Negi, Prem Datt	116	Heat exchange at snow-air interface, variation of albedo and ablation of snow pack of Western Himalaya
14:32	Manohar Arora, R.D. Singh, Rakesh Kumar	117	Sensitivity analysis on water availability of a large Himalayan river
14:34	Elena Parfenova, Nadja Tchebakova	121	Relationships between snow and vegetation in the Altai-Sayan mountains
14:36	Atsushi Sato, Yasushi Kamata	125	Evaluation of the depth hoar growth by a microscopic movie

<b>Chairman:</b>			
<b>Poster Session 2. Short presentations</b>			
14:40	Kileti Pradheep Kumar, Pragati Singh	032	Performance analysis of snow bridge at D-10 (J&K)
14:42	Agraj Upahyay, Amod Kumar, Arun Chaudhary	045	Velocity measurements of wet snow avalanche over an inclined chute at Dhundi
14:44	Jiro Komori, So Anma	052	Recent slush avalanche in the southeastern slope of Mount Fuji
14:46	Vinay Chaudhary, Sunil Bhardwaj, Mukesh Kumar Meena	055	Lateral load capacity of micro piles on hill slopes
14:48	Ganesh Kumar, A.K. Shukla	066	Integrated avalanche control scheme for avalanches affecting diverted Manali-Leh national highway (NH-21)
14:50	P.S. Negi, Uttam Chand	071	Quantitative study of low cost structures for snow harvesting in snow bound regions
14:52	Mohamed Naaïm, Thierry Faug, Florence Naaïm, Nicolas Eckert	107	From research to engineering: Return period events calculation and passive defence structure design at Taconnaz avalanche path
14:54	Ganesh Kumar, A.K. Shukla	108	Innovative design of snowdrift control structure (snow fence) with crush barriers
14:56	Douglas MacAyeal	109	Falling ice in the urban environment: an emerging danger?
14:58	Florence Naaïm-Bouvet, Mohamed Naaïm, Hervé Bellot	110	Back analysis of drifting snow measurements over an instrumented mountainous site

15:00	Nilesh K. Rai, A.K. Rai, P.K. Satyawali, P.K. Srivastava	006	Liquid to solid conversion: Qualitative analysis of trace metal elements in Ice
15:02	Kamal Kant Singh, H.S. Gusain, V.D. Mishra, R.P. Shukla	010	Ground penetrating radar survey for detection of shelf ice depth and its spatial variation in central Dronning Maud Land, East Antarctica
15:04	Rajiv Kumar Das, Neeraj Sharma, Ramanand Chouhan	014	Design of snow temperature profilers for measurement of temperature gradient in seasonal snowpack
15:06	Neeraj Sharma, Ganesh Kumar, Rajesh Kumar Garg	018	Instrumentation setup for measurement and study of Snowdrift at Banihal-top
15:08	H.S. Gusain, V.D. Mishra, Ashwagosha Ganju, Amreek Singh	019	Yearly cycle of the meteorological parameters, surface energy fluxes and accumulation / ablation of the Antarctic ice sheet, near Schirmacher oasis, Central Dronning Maudland, East Antarctica
15:10	Neeraj Sharma, Rajesh Kumar Garg, Ramanand Chauhan	021	Optical instrument to measure the front face velocity of snow mass flow in snow chute
15:12	Rashpal Kaur, G.R. Panesar	024	Synthetic terrain rendering of snow bound mountainous areas using open GL
15:14	M.R. Bhutiyani, Mahesh Chandra Sharma	030	Seismic refraction studies on the Chhota Shigri Glacier in the Pirpanjal Himalayas, Himachal Pradesh, India.
15:16	Achim Heilig, Martin Schneebeli, Olaf Eisen	042	Ground-penetrating radar as a tool for temporal observations of snowpack properties
15:18	Jimmy Kansal, R.S. Pant, R.N. Sarwade	047	Optimum configuration design for an unmanned aerial vehicle as a platform for snow cover evaluation
15:20	A.R. Harish, D. Trivedi, S. Gogineni, J. Li, C. Leuschen	065	The effect of mutual coupling on array processing radar sounder data to reduce surface clutter
15:22	I.M.L. Das, K.C. Tripathi	088	Tele-connection between Antarctic sea ice concentration and all India rainfall
15:24	L.N. Sharma, Snehmani, J.R Sarwade	093	Studies on Spatio-temporal monitoring of glaciers using IRS 1C and 1D Data - A case study from Hamtah Glacier, Lahul Spiti, Himachal Pradesh, India
15:26	Vijay Kumar, Gopalan Venkataraman	104	Development of methodology for 2-dimensional velocity estimation of Himalayan glaciers using repeat pass interferometric synthetic aperture radar data
15:20	<b>POSTERS</b>		

**THURSDAY, 9 April 2009**

		<b>Chairman:</b>	
<b>Session 8: Avalanche forecasting and mitigation</b>			
08:50	K. Srinivasan, Ajay Kumar, Jyoti Verma, Ashwagosha Ganju	075	Prediction of certain meteorological parameters over station location using model output statistics for avalanche threat assessment
09:10	S.K. Dewali, Snehmani, Puyam S. Singh, R.N. Sarwade	025	A GIS-based avalanche hazard zonation scheme for NW Himalaya using topographical and meteorological variables
09:30	Pragati Singh, Sudesh Kumar, Kileti Pradheep Kumar	041	Avalanche hazard mitigation along the North portal of the proposed Rohtang tunnel in Himachal Pradesh
09:50	R.N. Sarwade, Anant Kumar Shukla, Amod Kumar, Sunil Bhardwaj	073	Functional criticalities of snow gallery at Phindri Nala (MSP-7) avalanche site, Manali, India
10:10	<b>Refreshments</b>		

		<b>Chairman:</b>	
<b>Session 9: Avalanche dynamics I</b>			
10:40	Perry Bartelt, Othmar Buser	059	Frictional Relaxation in Avalanches
11:00	R. Nagarajan, R.N. Sarwade, G. Venkataraman, M.V. Khire, Snehmani	122	Snow avalanche run out estimation – a case study from NW Himalaya, India
11:20	G. Chambon, M. Naaim	096	Scaling relationships for constant volume flowing snow avalanches
11:40	Barbara Turnbull, Cian Seamus Carroll, Michel-Yves Louge, Edwin A. Cowen	061	Modeling erosion at the head of suspension currents
12:00	Marc Christen, Julia Kowalski, Perry Bartelt	074	Avalanche dynamics calculations in three-dimensional terrain: definition of initial conditions, solution parameters, grid resolution and interpretation of model results
12:20	<b>Lunch</b>		

	<b>Chairman:</b>		
	<b>Session 10: Avalanche dynamics II</b>		
14:00	Ashok K. Keshari, Amod Kumar	026	Flow parameterization for density varying avalanche dynamics models
14:20	Jim N. McElwaine, B. Turnbull	111	Powder snow avalanche experiments and field data
14:40	Anand Malik, Marc Christen, C.J. van Westen, Praveen Thakur, Snehmani	056	Calculation of snow avalanche runout distances in three-dimensional terrains along Solang - Dhundi transportation corridor using RAMMS (Rapid Mass Movements)
15:00	Deba Prakash Satapathy, A K Keshari, A Kumar	077	Numerical modeling and experimental validation of runout distances
15:20	Marius Schaefer, Louis Bugnion, Martin Kern, Perry Bartelt	078	Time dependent velocity profiles in chute flows
15:40	<b>Refreshments</b>		

	<b>Chairman:</b>		
	<b>Session 11: Avalanche dynamics III</b>		
16:10	M.A. Kern, P.A. Bartelt, B. Sovilla	092	Evolution of the internal velocity structure of a dense snow avalanche from head to tail.
16:30	Thierry Faug, Benoit Chanut, Rémi Beguin, Mohamed Naaim	049	Snow avalanches pressure on obstacles: what can we learn from discrete numerical simulations of granular flows and hydrodynamic modelling?
16:50	Djebar Baroudi, Betty Sovilla, Emmanuel Thibert	053	Comparison of avalanche pressure measurements: piezo-electric load cells versus deformation inverse analysis
17:10	Thibert Baroudi	037	Impact energy of an avalanche on a structure
17:30	<b>Adjournment</b>		

**FRIDAY, 10 April 2009**

<b>Chairman:</b>			
<b>Session 12: Snow hydrology</b>			
08:30	Gulab Singh, Snehmani, G. Venkataraman, A.K. Nigam	057	Algorithm development for snow density estimation using polarimetric advanced SAR Data
08:50	Luca Egli, Tobias Jonas, Jean-Marie Bettems	060	A virtual network for estimating daily new snow water equivalent and snow depth in the Swiss Alps
09:10	Manjeet Singh, V.D. Mishra, N.K. Thakur, A.V. Kulkarni, Mahavir Singh	004	Effect of climate variations on monthly and seasonal snowmelt run-off using remote sensing and GIS technique
09:30	Tobias Jonas, Arne Bergau, Jan Magnusson, Mathias Bavay	091	Distributed snow hydrological modeling: the importance of appropriate input data
09:50	Prem Datt, P.K. Srivastava, G.K. Sood, P.K. Satyawali	069	Estimation of equivalent permeability of snowpack using a snow lysimeter at Patsio
10:10	<b>Refreshments</b>		

<b>Chairman:</b>			
<b>Session 13: Remote sensing</b>			
10:40	Praveen K. Thakur, Snehmani, V. Hari Prasad, S.P. Aggarwal. Sanjay K. Jain	099	Snow cover mapping using multi-sensor SAR data for parts of Western Himalaya
11:00	H.S. Negi, N.K. Thakur, Snehmani, R.N. Sarwade	036	Monitoring of seasonal snow cover characteristics in avalanche prone areas of NW-Himalaya using MODIS data
11:20	V.D. Mishra, J.K. Sharma, Manjeet Singh, Mahavir Singh, K.K. Singh	031	Qualitative and quantitative review of different topographic analysis methods for Western Himalaya using AWiFS and MODIS satellite imagery – validation
11:40	R.S. Pant	048	Conceptual Design of a High Altitude Aerostat for Study of Snow Patterns
12:00	Sivaprasad Gogineni, Carl Leuschen	102	Instrumentation Package for Measurements from Uninhabited and Inhabited Aircraft for Polar Research
12:20	<b>Closing ceremony</b>		
13:00	<b>Lunch</b>		