Program 2nd European Hail Workshop, Bern

Wednesday, 19 April 2017

13:00	**Registration**
14:00	**Opening**

Session I 14:10–16:05 Convection and hail in a changing climate

14:10	**Keynote** – Modelling the large hail hazard in the past, present, near and far future *Pieter Groenemeijer, European Severe Storms Laboratory (ESSL), Germany*
14:35	**Keynote** – Are meteorological conditions that favor hail precipitation changing in southern Europe? Analysis of the period 1948–2015 *Jose Luis Sanchez, University of Leon, Spain*
15:00	**Keynote** – Hail occurrence under anthropogenic climate change *Jeff Trapp, University of Illinois, USA*
15:25	A Historical Analysis of Severe Hail Outbreaks over the CONUS *Emily Schlie, University of Illinois, USA*
15:40	Decreasing trend in severe weather occurrence over China during the past 50 years *Qinghong Zhang, School of Physics Peking University, China*
15:55	**Discussion**

Coffee Break 16:05–16:40

Session II 16:40–18:15 Hail damage and hail damage prevention

16:40	**Keynote** – Incorporating distributions of insurance loss data into a stochastic hail loss model *Stefan Ritz, Tokio Millennium Re AG, Switzerland*
17:05	A catastrophe model of extreme hail events over Europe based on lightning observations *Symeon Koumoutsaris, Guy Carpenter, United Kingdom*
17:20	Crop hail damage assessment based on radar and drone integrated technologies *Satyanarayana Tani, Graz University of Technology, Austria*
17:35	Limitations and advantages of using a near real-time algorithm for interpolating hail size combining weather radar and surface observations *Tomeu Rigo, Servei Meteorologic de Catalunya, Spain*
17:50	Hailstorms in the southern Brazil *Jorge Martins, Federal University of Technology - Paraná, Brazil*
18:05	**Discussion**

Apero 18:15

Thursday, 20 April 2017

	Session III 09:00–12:30 Local probabilities and long-term statistics of hail
9:00	**Keynote** – Hail frequency in Europe *Heinz Jürgen Punge, Karlsruhe Institute of Technology, Germany*
9:25	Hail Size: What We Know Around the World *John Allen, Central Michigan University, USA*
9:40	Long-term variability of the hail potential in Europe and potential drivers *David Piper, Karlsruhe Institute of Technology, Germany*
9:55	Environmental proxies for hail in northern Switzerland - interannual variability and links to local and global circulation *Olivia Martius, University of Bern, Switzerland*
10:10	Significant-hail producing thunderstorms in Finland: Synoptic environment *Jenni Rauhala, Finnish Meteorological Institute, Finland*
	Coffee Break 10:25–11:00
11:00	The life-cycle of hail storms: lightning, radar reflectivity and rotation characteristics *Kathrin Wapler, German Weather Service, Germany*
11:15	Moderate and severe hailfalls in France : Average Recurrence Intervals and recent evolution *Claude Berthet, ANELFA, France*
11:30	Hail frequency in central Europe estimated from radar data and the relation to orographic and atmospheric characteristics *Michael Kunz, Karlsruhe Institute of Technology, Germany*
11:45	Tracking hailswaths on radar data between 2002 and 2016: a new perspective for climatological studies of hail in the Alps *Luca Nisi, University of Bern, Switzerland*
12:00	Hail hazards in Switzerland with return periods of up to 300 years *René Cattin, Meteotest, Switzerland*
12:15	**Discussion**
	Lunch and Workshop Photo 12:30–14:00

Session IV 14:00–18:10 Microphysics and dynamics of hail storms: observations and modelling

14:00 **Keynote** – On the Mass, Terminal Velocity and Kinetic Energy of Natural Hailstones from Field Observations and Laboratory Experiments
Andrew Heymsfield, National Center for Atmospheric Research, USA

14:30 **Keynote** – Development, Application, and Evaluation of a One-Dimensional Hail Growth Model with WRF
Rebecca Adams-Selin, Atmospheric and Environmental Research, USA

15:00 Summertime hailstorms over Switzerland in 2012 -2015 in convection-permitting WRF simulations: assessment of modeling performance
Andrey Martynov, University of Bern, Switzerland

Poster Session & Coffee 15:20–17:00

17:00 **Keynote** – Observations of orographic mixed-phase clouds
Ulrike Lohmann, ETH Zurich, Switzerland

17:25 Aerosol effects on hail storms - large sensitivities and large uncertainties
Andrew Barrett, Karlsruhe Institute of Technology, Germany

17:40 Characteristics of lightning activity during hailstorms
Nataša Strelec Mahović, Meteorological and Hydrological Service, Croatia

17:55 **Discussion**

Conference Dinner 19:30

Friday, 21 April 2017

	Session V 09:00–12:50 Nowcasting and forecasting of hail (including case studies)
9:00	**Keynote** – A new era of hail monitoring, forecasting and climatology in Switzerland *Urs Germann, MeteoSwiss, Switzerland*
9:25	Ensemble-based storm-scale analysis and prediction of deep convection: The 27 May 2016 hail storms over Southern Germany *Axel Seifert, German Weather Service, Germany*
9:40	Analysis of the 7 July 2007 large hailstorm in NE Italy *Agostino Manzato, OSMER - ARPA FVG, Italy*
9:55	6 June 2015 - Multi-data Analysis of a Severe Hail Cell in Central Switzerland *Simona Trefalt, University of Bern, Switzerland*
10:10	First results of the 2016 Operational Campaign using the Lightning Jump algorithm as a nowcaster of Severe Weather in Catalonia *Carme Farnell, Servei Meteorologic de Catalunya, Spain*
10:25	The exceptional hailstorm over the Gulf of Naples on 5 September 2015: observational analysis and role of the GPM Core Observatory *Anna Cinzia Marra, Italian National Research Council, Italy*
	Coffee Break 10:40–11:20
11:20	Hail detection by means of a polarimetric hydrometeor classification algorithm *Jordi Figueras i Ventura, MeteoSwiss, Switzerland*
11:35	Hail nowcast exploiting radar and satellite observations *Ulrich Hamann, MeteoSwiss, Switzerland*
11:50	Hail nowcasting combining different radar and lightning tools *Tomeu Rigo, Servei Meteorologic de Catalunya, Spain*
12:05	Hail protection - simply automatic *Klaus Knüpffer, Meteo Service Weather Research GmbH, Germany*
12:20	Hailstorm evidence from smart-phone users: crowd-sourced hail size data over Switzerland *Pascal-Andreas Noti, University of Bern, Switzerland*
12:35	**Discussion**
12:50	**Clousure**
13:05	**End**

Posters

Hail Day Frequency Trends and Associated Atmospheric Circulation Patterns over China during 1960–2012
Mingxin Li, Peking University, China

50 Years of Hail Suppression in Serbia
Zoran Babic, Republic Hydrometeorological Service of Serbia, Serbia

A study of the initial development of hail and rain isolated cells with first radar echo above -10° C level - preliminary results
Tsvetelina Dimitrova, Hail Suppression Agency, Bulgaria

Hail climatology of Sofia-city district in Bulgaria
Liliya Bocheva, National Institute of Meteorology and Hydrology, Bulgaria

Towards a radar- and observation-based hailstorm data set for Germany
Thomas Junghänel, German Weather Service, Germany

An estimation of the dual-polarization C-band radar products in the hail events cases
Ljubov Liman, Finnish Meteorological Institute, Finland

Trend of hail occurrence in Serbia in the period 1981-2012
Julijana Nadj, Republic Hydrometeorological Service of Serbia, Serbia

The Methodology of AIR Worldwide's upcoming Probabilistic Severe Thunderstorm Model
Bernhard Reinhardt, AIR Worldwide, USA

Comparison and optimization of radar based hail detection algorithms in Slovenia
Gregor Skok, University of Ljubljana, Slovenia

Progress on the realization of innovative low cost disposable hail sensing probes
Silvano Bertoldo, Politecnico di Torino, Italy

Summertime hailstorms over Switzerland in surrogated climate change simulations
Andrey Martynov, University of Bern, Switzerland

Development of a new seamless prediction system for very short range convective-scale forecasting at DWD
Ulrich Blahak, German Weather Service, Germany

A comparison of the hail size in front of the electrical and other radar features of thunderstorms: the use of lightning jump as severe weather forecaster
Carme Farnell, Servei Meteorologic de Catalunya, Spain

Radar signatures of Three Body Scatter Spike (TBSS) detected in Bulgaria
Stefan Georgiev, Hail Suppression Agency, Bulgaria

The next generation of hail detection – HailSens the first automatic online hail measurement sensor
Christian Ruckstuhl, inNET Monitoring AG, Switzerland

Evaluation of NWP WRF model with GNSS-IWV during intense precipitation cases in Bulgaria
Martin Slavchev, National Institute of Meteorology and Hydrology, Bulgaria

Combined LIDAR-RADAR methodology to improve efficiency of pyrotechnic Silver Iodide (Ag I) use on hail prevention: LIRA - PNCDI II –RO –Project
Ioan Balin, Bucharest University, Romania

The Role of Initial Cloud Condensation Nuclei Concentration in Hail Using the WRF NSSL 2-moment Microphysics Scheme
Xiaofei Li, Peking University,China

Supercell systems that have crossed the northern region of Moldova in date 18.06.2016
Aurel Danut Axinte, Alexandru Ioan Cuza University Iasi, Romania

Numerical simulation of physical and dynamical characteristics associated with the severe hailstorm
Mohan Kumar Das, Institute of Water and Flood Management, Bangladesh