# **IWIC-X**

# 10th international Workshop on Ice Caves (May 12-18, 2024)

The 10th International Workshop on Ice Caves (IWIC-X) will be held in Werfenweng, Austria. The response to the announcement of this conference was greater than expected and we are slightly overbooked. Those who have registered but are unable to come should let us know as soon as possible, as there is a waiting list.

#### How to get there?

The venue will be the guesthouse <u>Barbarahof</u> in the village of Werfenweng, located some 40 km south of the city of Salzburg. Werfenweng can be reached by public transportation (train to Pfarrwerfen and then bus), by car, or by plane to Salzburg or Munich (then train, bus or taxi).



#### By train from Munich or Salzburg

If you fly to Munich, take the S8 train to Munich central station, change there to a train to Salzburg and change again in Salzburg to a train to Pfarrwerfen. Get off the train at station Pfarrwerfen (about 3-4 h from Munich airport, or about 1h 10 min from Salzburg).

Austrian railways (ÖBB)

German railways (DB)

The regional bus no. 502 takes you to the centre of the village Werfenweng (station "Werfenweng Ortsmitte"). <u>Timetable of bus no. 502</u>. Please note that there is no bus service on Saturday and Sunday and you will need to walk ca. 1.5 km from this station for Barbarahof. Alternatively, there is a local shuttle (taxi) service called <u>W3-Shuttle</u> that operates seven days a week.

#### **Accommodation**

If you have not already made a reservation, we strongly recommend that you book at <u>Barbarahof</u> to take advantage of the special rates (see <u>conference website</u>), which include breakfast, lunch and dinner (info@barbarahof.com and quote IWIC-X).

## Overview programme and time schedule

Sunday 12		Monday 13		Tuesday 14		Wednesday 15		Thursday 16		Friday 17	
		09:00	Conference Opening	08:30	Bus to Eisriesenwelt	09:00	Invited Keynote 2			09:00	Field trip to Dachstein
		09:10	Session 1a	09:45	Cable car transfer to top station	09:30	Session 3a	09:30	CCC Session 1		Rieseneishöhle
		10:15	Coffee break			10:30	Coffee break	10:30	Coffee break		
		10:45	Session 1b	11:00	Tour in Eisriesenwelt	11:10	Session 3b	11:10	CCC Session 2		
		12:05	Lunch time			12:10	Lunch time	12:10	Lunch time		
		13.45	Session 2a	13:30	Lunch at Oedlhaus	13.50	Session 4a	13.55	CCC Session 3		
		15:05	Coffee break			15:10	Coffee break	15:10	Coffee break		
		15:40	Session 2b	15:00	Cable car transfer to bottom station	15:50	Session 4b	15:45	CCC Session 4		
16:00	Welcome and registration	16:20	Invited Keynote 1	16:00	Drive to Eisriesenwelt office	16:10	Invited Keynote 3	16:45	Discussion		
				17:00	Walk to Werfen castle		•		•		
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18:00	Ice breaker			17:15	Werfen castle tour						
				18:20	Conference dinner						

## Field trips

Mid-conference field trip: Eisriesenwelt

Recommended equipment: regular mountain outfit (good shoes, warm jacket). We will take a lunch break at a restaurant near the cave (not included in the registration fee).

Post-conference field trip <u>Dachstein-Rieseneishöhle</u>

Recommended equipment: regular mountain outfit (good shoes, warm jacket).

Packed lunch will be provided (included in the field trip fee).

#### Castle tour and conference dinner

The mid-conference field trip will be concluded with a visit to the nearby <u>Castle Werfen</u>. We will be given a guided tour of the castle, followed by the conference dinner (all included in the registration fee).

#### **Presentations (orals only)**

Oral presentations (except keynotes) will be 15 min followed by 5 min discussion.

#### **Abstract**

The abstracts will be available before the meeting via download.

## Conference fee

Participants who have not paid should transfer the conference fee as soon as possible (see conference website for bank details). Only cash payment is possible on site.

Participants who have paid in advance will receive an invoice on site. Those who will pay on site will receive an invoice electronically after the meeting.

#### Conference website

https://www.uibk.ac.at/en/congress/iwic-x/

#### Contact

IWIC10conference@uibk.ac.at

# Organising committee

Christoph Spötl (University of Innsbruck)

Gabriella Koltai (University of Innsbruck)

Yuri Dublyansky (University of Innsbruck)

Tanguy Racine (University of Neuchâtel)

Jeffrey Munroe (Middlebury College, University of Innsbruck)

Fritz Oedl (Eisriesenwelt GmbH)

# **Detailed programme**

Monday 13				
09:00	Conference opening	·		
09:10	UIS Commission «Caves in glaciers, firn and ice caves»	B. Mavlyudov		
09:30	Comparison of non-contact measurement technologies applied on the underground glacier in Dobšiná Ice Cave	L. Dušeková		
09:50	Monlési cave ice volume from terrestrial laser scanning and ground penetrating radar	J. Boissonnas		
10:15	Coffee break			
10:45	Ice level change according to 4 years of LiDAR measurements in caves Velika ledena jama v Paradani and Snežna jama na planini Arto (Slovenia)	M. Blatnik		
11:05	Speleology in the Berchtesgaden National Park Eiskapelle: 26 years of surveying	A. Wolf		
11:25	Dynamic conditions and ice loss within diverse ice caves at various geographic latitudes in Canada	C. Stenner		
11:45	Melting away: Ice in high elevation caves in Nevada, US	G. Baker		
12:05	Lunch break			
13:45	Micrometeorological conditions in two sag-type ice caves in the Austrian Alps and their relationship to the external atmosphere	M. Wind		
14:05	Microclimatic and ice accumulation change monitoring in Silická ľadnica cave	J. Šupinský		
14:25	Seasonality of thermal conditions of Ice Cave in Ciemniak, Tatra Mountains, Poland and its relation to surface temperature - measurements and modelling study	A. Stasiewicz		
14:45	Preliminary results of monitoring in ice caves in Prokletije Mountains (Ice Gigant Cave, Montenegro)	J. Barabach		
15:05	Coffee break			
15:40	Ice formation in the entrance cold zone and intensifying flood events at Castleguard Cave, Alberta, Canada	C. Stenner		
16:00	Quantification of hourly particle movements on sorted circles in a karst cave in Slovenia	J. Obu		
16:20	Invited keynote 1: The fate of ice core research on high-Alpine glaciers	P. Bohleber		
16:50	pre-field trip briefing			

Wednesday 15					
09:00	Invited keynote 2: Morphodynamics, morphology, and microclimate of glaciovolcanic cave systems	C. Stenner			
09:30	Volcano-ice interactions in the crater of Mount St. Helens – an investigation of glaciovolcanic cave systems	L. Sobolewski			
09:50	Cave on Lunnyj Ice Dome, Alexandra Land Island, Franz Josef Land	B. Mavlyudov			
10:10	A decade of ice cave research in Slovenia	J. Košutnik			
10:30	Coffee break				
11:10	Subaquatic skeletal ice crystals in a karst pit	A. Filippov			
11:30	Speleothem damage by ice flow: a fluid-structure interaction simulation study	A. Jarosch			

11:50	Interaction between a cold scree and plant community, the Soteska case study, Slovenia	J. Košutnik
12:10	Lunch break	
13:50	Changing Holocene precipitation seasonality in the Central Rocky Mountains recorded by a subterranean cryosphere archive in Northern Utah, USA	J. Munroe
14:10	Mid to Late Holocene hydroclimate in the southwest USA: evidence from lava tube ice	B. Onac
14:30	Subfossil trunk preserved on an ice cave reveals 200 m higher than today treeline conditions during the Medieval Climate Anomaly (Central Pyrenees)	M. Bielsa
14:50	A new mass balance reconstruction from an exceptional ice deposit in the Sarstein massif (Austria) and its paleoclimate implications	T. Racine
15:10	Coffee break	
15:50	From Sacher torte to FUBAR: genesis, dynamics and dismissal of layered cave ice deposits	C. Bădăluţă
16:10	Invited (online) keynote 3: (Ice) caves as microbial hot spots	B. Sattler

Thursday 16					
09:30	Cryogenic carbonates precipitated from laboratory experiments	O. Uwakwe			
09:50	Cryogenic ridges: a new speleothem type	B. Onac			
10:10	Cryogenic carbonate synthesis via bottom-up solution freezing	P. Nemeth			
10:30	Coffee break				
11:10	Modelling mineral successions in freezing ice-blocks	R. Milovsky			
11:30	Trace elements substitution may control the shape of CCC	S. Milovska			
11:50	Formation settings, classification, terminology of CCC (introduction to discussion)	Y. Dublyansky			
12:10	Lunch break				
13:55	Detlev K. Richter (1942-2023): A pioneer of CCC research	C. Spötl			
14:10	Sub-modern and real-time formation of coarse cryogenic cave carbonate in a Pyrenean ice cave	M. Bartolomé			
14:30	Recent CCC findings from the Sanetch area, Switzerland	M. Luetscher			
14:50	Unusual morphology of crystals and aggregates of cryogenic cave calcite	Y. Dublyansky			
15:10	Coffee break				
15:45	Controls on sub-modern $CCC_{coarse}$ formation in a high-elevation karstic massif (Devaux ice cave, Pyrenees, Spain-France)	M. Bartolomé			
16:05	Cryogenic cave carbonates document multiple episodes of extensive cave glaciation in the Tennengebirge (Austria) during the last glacial period	G. Koltai			
16:25	When did the ice deposits in Eisriesenwelt form? Clues from the radiometric dating of cryogenic carbonates	C. Spötl			
16:45	Discussion: Formation settings, classification, and terminology of CCC				