



Beyond EPICA Oldest Ice Core: 1,5 Myr of greenhouse gas – climate feedbacks

ASSW 2023

EU Polar Cluster Community Meeting

18 February 2023, Vienna

www.beyondepica.eu

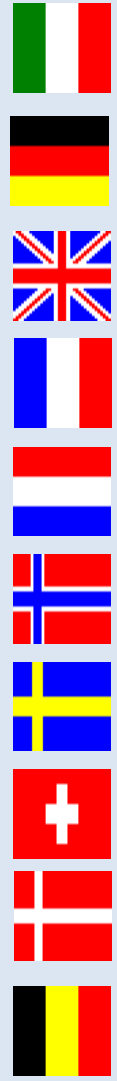


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Chiara Venier (Beyond EPICA project manager) & Beyond EPICA team



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Funding €10 999 942.00 €

Duration 7 years (1st June 2019-31st May 2026)

Consortium *Coordinator* - ISP-CNR: The Institute of Polar Sciences of the National Research Council of Italy
Project Coordinator: Prof. Carlo Barbante (ISP-CNR and University Ca' Foscari Venice)

10 European and non-EU countries

12 consortium members

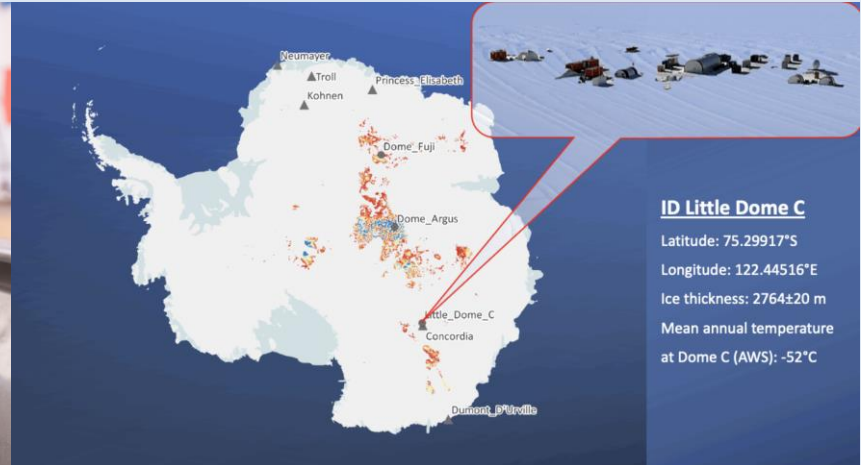
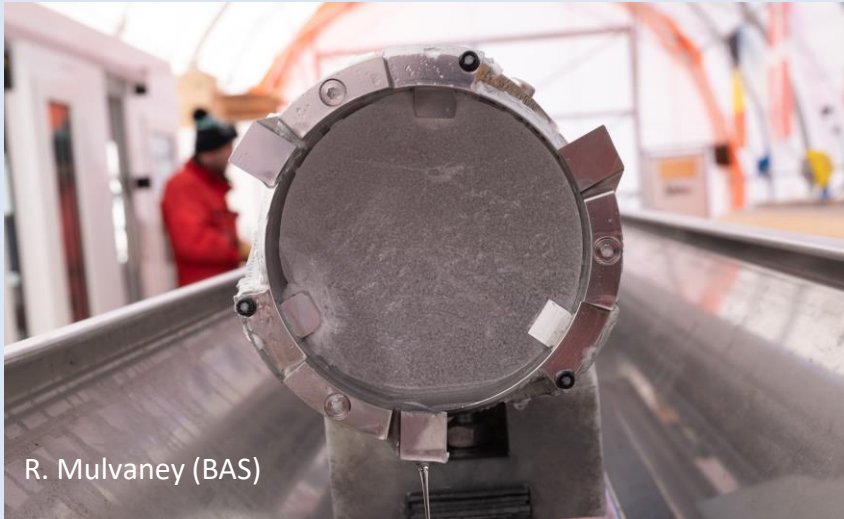
4 third parties



European Union's Horizon 2020 - Research and Innovation Action (RIA) Grant Agreement No. 815384

Objectives

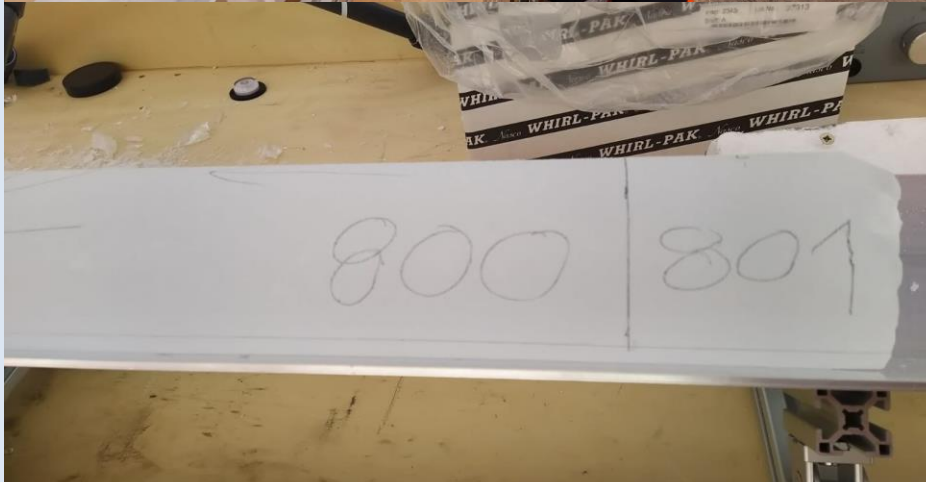
- Retrieve a **continuous ice core to bedrock** in **Antarctica**, covering the climate history of the **Mid Pleistocene Transition** and beyond, where glacial/interglacial cycles changed from a 40,000 to a 100,000 yr cyclicity.
- Derive first **high-resolution climate records** over the time interval **older than 700 kyr**.
- Use the new climate records to **constraint the cause of the MPT** and long-term carbon cycle-climate feedbacks



BELDC CAMP, January 2022



Drilling activities, Jan 20, 2023



Scheduled Plan: next field seasons

- **season 2023-24:** Continue deep **drilling to a depth of about 1900 m.** Transport by traverse to Little Dome C of fuel 20 m³, drilling fluid 20 m³. Transport by Basler/l'Astrolabe/cargo of the ice sample to EU.
- **season 2024-25: Drilling to the bedrock** - replicate cores (the last 2/300 m, older than 700 kyr) and retrograde the traverse module and camp at Concordia. Transport by traverse to Little Dome C of fuel 20 m³. Transport by Basler/l'Astrolabe/cargo of the ice sample to EU.
- **season 2025-26:** Borehole logging. Retrograde the traverse module and camp at Concordia. Clean the camp



Future Events

Events

- ASSW - EU Polar Cluster Community Meeting & Communication meeting (February 2023)
- Beyond EPICA Science Consortia and Steering Committee meetings (20-21-22 March 2023) – periodically planned at least once a year
- EGU session (D6.5 Programme for interdisciplinary sessions held at appropriate conferences within years 3-4 of 'Beyond EPICA' – next one foreseen in Spring 2024)
- Third International Oldest Ice Workshop (Fall 2024)
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Links with International Projects/Initiatives.....:

- IPICS (International Partnerships in Ice Core Sciences)
- SCAR (Scientific Committee on Antarctic Research)
- European Polar Board (EPB)
- PAGES (Past Global Changes)
- DEEPICE MSCA ITN
- Short-Term grants at Oregon State University open to students and post-doc researchers involved in oldest ice core studies
- EU-PolarNet2





Thanks for your attention!

Beyond EPICA project



<https://www.beyondepica.eu/>



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CONTACTS

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