EPIGRAPHY

Edge dee**P** learnI**nG** fo**R** p**A**rticle **PHY**sics

Kickoff Event

12.01. - 15.01.2026, Lisboa, Portugal

Why are we here?

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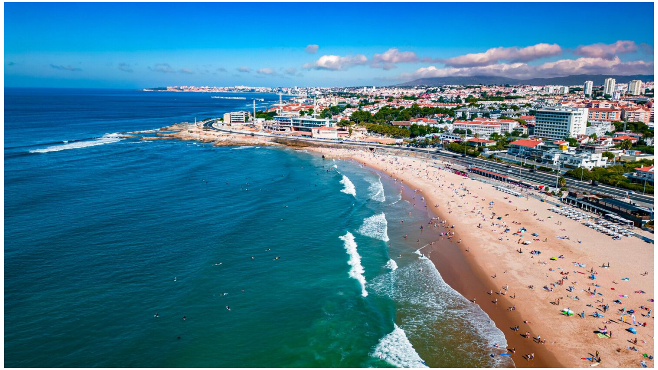

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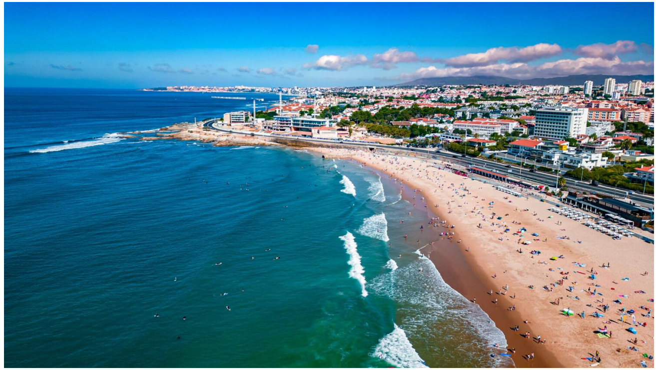
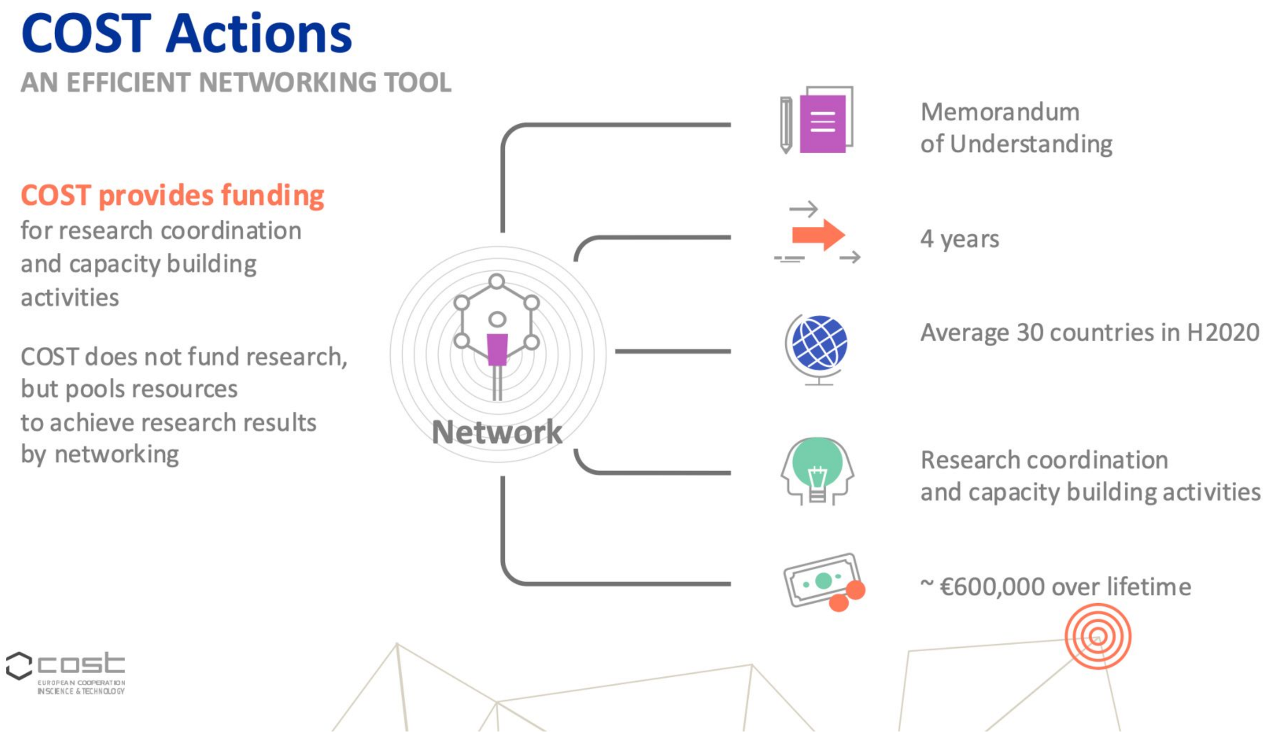


Instead: My plane got delayed 2hrs yesterday because of low-hanging clouds

but still an improvement from this

What are COST Actions?



COST Membership

41 Full COST Members

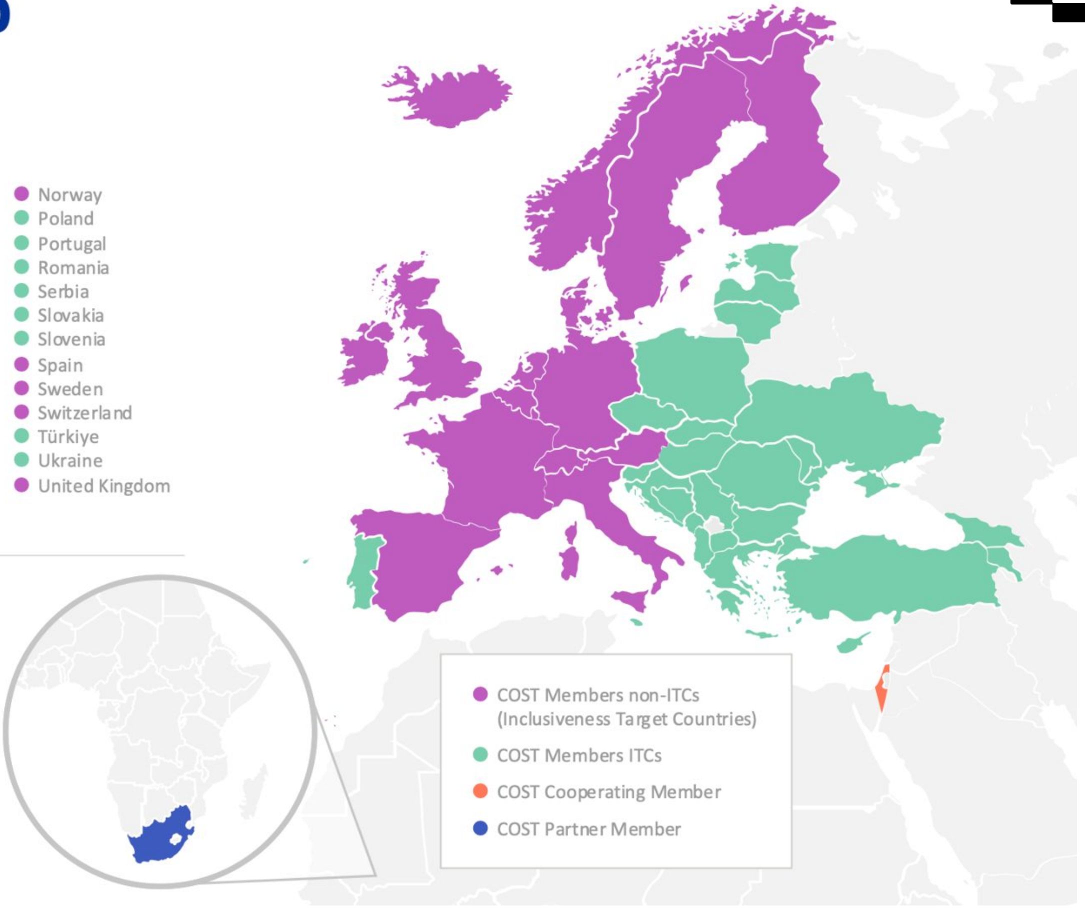
- Albania
- Armenia
- Austria
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Georgia
- Germany
- Greece
- Hungary*
- Iceland
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- The Republic of Moldova
- Montenegro
- The Netherlands
- The Republic of North Macedonia
- Norway
- Poland
- Portugal
- Romania
- Serbia
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Türkiye
- Ukraine
- United Kingdom

1 Cooperating Member

- Israel

1 Partner Member

- South Africa



cost
EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

What is EPIGRAPHY?

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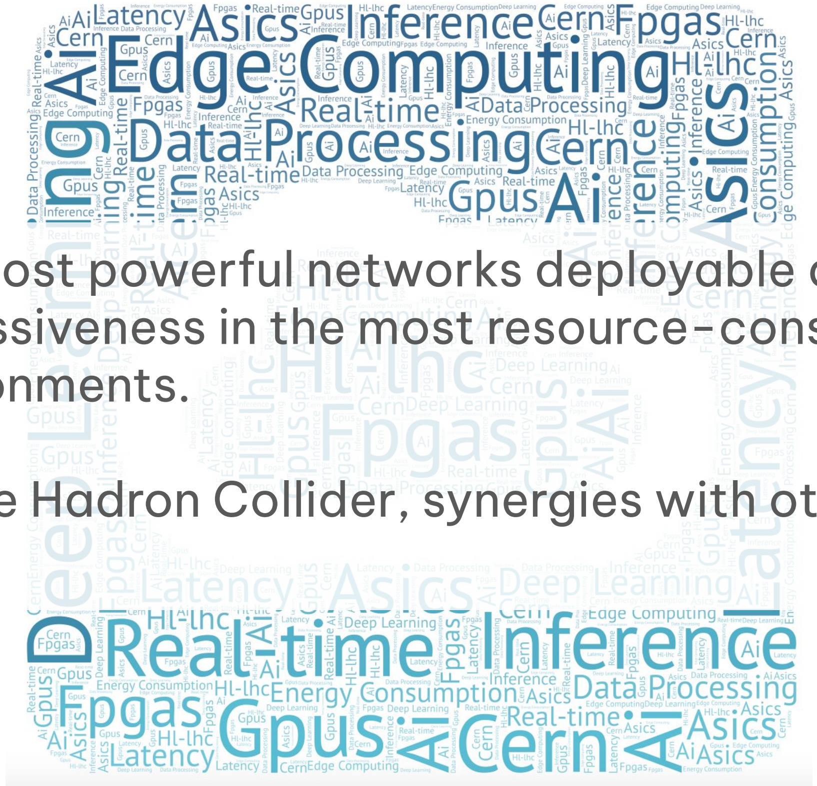


Make the most powerful networks deployable and retain their expressiveness in the most resource-constrained edge environments.

Focus Large Hadron Collider, synergies with other domains?

General Action Structure

Chair
Vice-Chair

Management Committee (MC)

Grant Holder (GH)
GH Scientific Representative

WG1
Architecture-specific compression solutions (SCS)

WG2
Advanced compression tools based on explainable AI (XAI)

WG3
End-to-end training framework (E2E)

WG4
ASIC-for-AI design (AAI)

WG5
Education (EDU)

HORIZONTAL GROUPS
Grant Awarding Coordinator
Science Communication Coordinator

Summary of Leadership Positions

Candidate Grant Awarding Coordinator
Piotr Andrzej Kowalski (PL)

Candidate Science Commun. Coordinator
Rebeca Gonzalez Suarez (SE)

Equity & Inclusiveness Advisor
TBD

Young Researcher Representative
TBD

WG1
Candidate Leader
Sioni Summers (CH)
Candidate co-leaders
Sebastian Dittmaier (DE), Torben Ferber (DE)

WG2
Candidate Leader
Santeri Laurila (Finland)
Candidate Co-leader
Stefano Giagu (IT)

WG3
Candidate Leader
Joosep Pata (Estonia)
Candidate Co-leader
Ines Ochoa (PT)

WG4
Candidate Leader
Nuno Roma (PT)
Candidate Co-leader
Andre David (CH)

WG5
Candidate Leader
Deniz Cerci (TR)
Candidate Co-leaders
Salim Cerci (TR), Felice Pantaleo (CH)

+116 WG members

Timeline

12.01.-15.01. Event (School/Workshop)

01.11.25 Budget Start

April WG meetings

13.07.-14.07. Hackathon @ CERN

October MC me

20.10.25 MC1 / Action Start

Throughout the year: calls for mini grants

14.09.-18.09. Co-organization of ML4Jets (Vienna)

Mini grants

Short term scientific missions

Inclusiveness Target Countries conference grants

Young Researcher and Innovator conference grants

Schedule

Mon

09:00	**Welcome & Introduction**	*Benedikt Maier et al.*		
	Introduction to LHC data with ML and FastML	*Maciej Mikolaj Glowacki*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	09:30 - 10:45
	Coffee break			
11:00	**Neural network quantization with Brevitas**	*Giuseppe Franco*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	11:00 - 12:00
12:00	**Lunch**		*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	12:00 - 13:30
	Introduction to FPGAs & hls4ml	*Christopher Edward Brown*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	13:30 - 15:00
15:00	**Coffee break**			
	Quantization for FPGAs	*Chang Sun*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	15:30 - 17:00
17:00	**An example from A to Z: Jet tagging with quantised GNNs and Transformers**	*Lauri Antti Olavi Laatu*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	17:00 - 18:00
18:00				

Tue

An introduction to XAI	*Stefano Giagu*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	09:00 - 10:15
Tutorial & Practicals on Knowledge Distillation	*Andrea Ciardiello*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	10:15 - 11:30
Lunch		*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	11:30 - 12:30
XAI: An outside perspective	*Marte Eggen*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	12:30 - 13:30
Introduction to ASICs	*Marcelino dos Santos*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	13:30 - 14:45
Coffee break		*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	14:45 - 15:30
ASICs at CMS	*Davide Ceresa*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	15:30 - 16:15
Fast Artificial Intelligence to solve the mysteries of the Universe	*Thea Aarrestad*		
Panel Discussion		*Anfiteatro Abreu Faro, Instituto Superior Técnico*	17:15 - 18:00

Wed

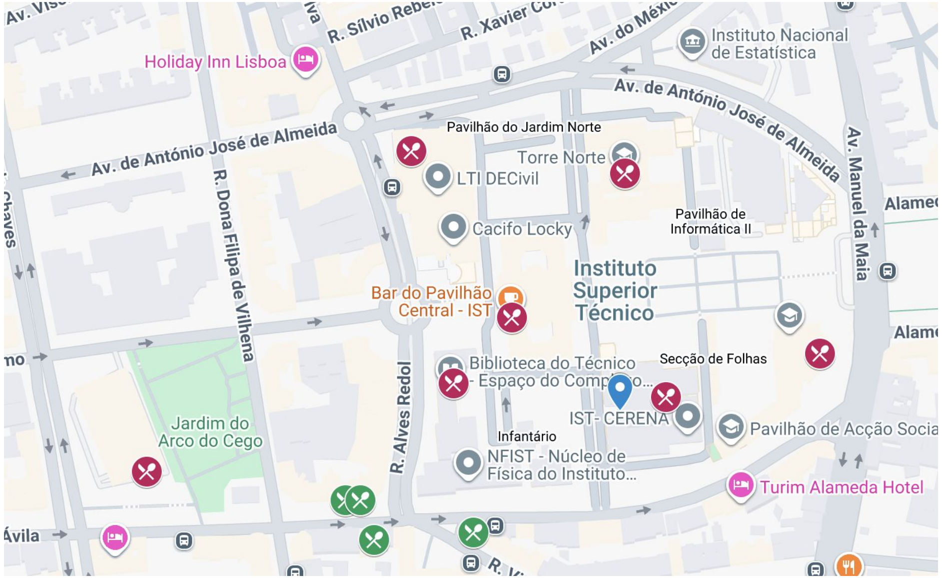
Challenges & Opportunities in CMS	*Emyr Clement*		
Challenges & Opportunities for ATLAS through the NGT Project	*David Reikher*		
Challenges & Opportunities in Edge Inference for Belle II	*Isabel Haide*		
Coffee break			
AI on ASICs: SmartPixels	*Danush Shekar*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	11:00 - 12:00
Lunch		*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	12:00 - 13:30
Towards ASICs for the FCC-ee	*Benedikt Maier*		
Transformers on FPGAs	*Arianna Cox*		
PQuantML	*Roope Oskari Niemi*		
Fast Decision Forests (Google)	*Richard Stotz*		
Coffee break			
Data challenge ideation & creation	*Sebastian Dittmeier et al.*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	16:00 - 17:30

Thu

Next-Generation Trigger	*Sebastian Dittmeier*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	09:00 - 10:00
Coffee break			
EuCAIF	*Maurizio Pierini*	*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	10:30 - 11:15
CA24146 - Machine Learning and Quantum Computing for Future Colliders (MLQC4FC)	*Riccardo Torre et al.*		
Lunch		*Pavilhão de Química, QA 1.1, Instituto Superior Técnico*	12:00 - 13:00
WG1: Next Steps	*Sebastian Dittmeier et al.*		
WG2: Next Steps	*Santeri Laurila et al.*		
WG3: Next steps	*Ines Ochoa et al.*		
WG4: Next steps	*André David et al.*		
WG5: Next steps	*Deniz Sunar Cerci et al.*		
EPIGRAPHY: Next steps	*Benedikt Maier et al.*		
Coffee break			

Brief practical information (I)

Where to go for lunch



Map available here

There are several lunch options in and around campus.

Red: in campus canteens / snack bars
Green: there are plenty restaurants off-campus, many of them of good quality

Please note the different lunch break durations:
1:30 on Mon/Wed
1:00 on Tue/Thu

Brief practical information (II)

We are
here

Where to go for lunch

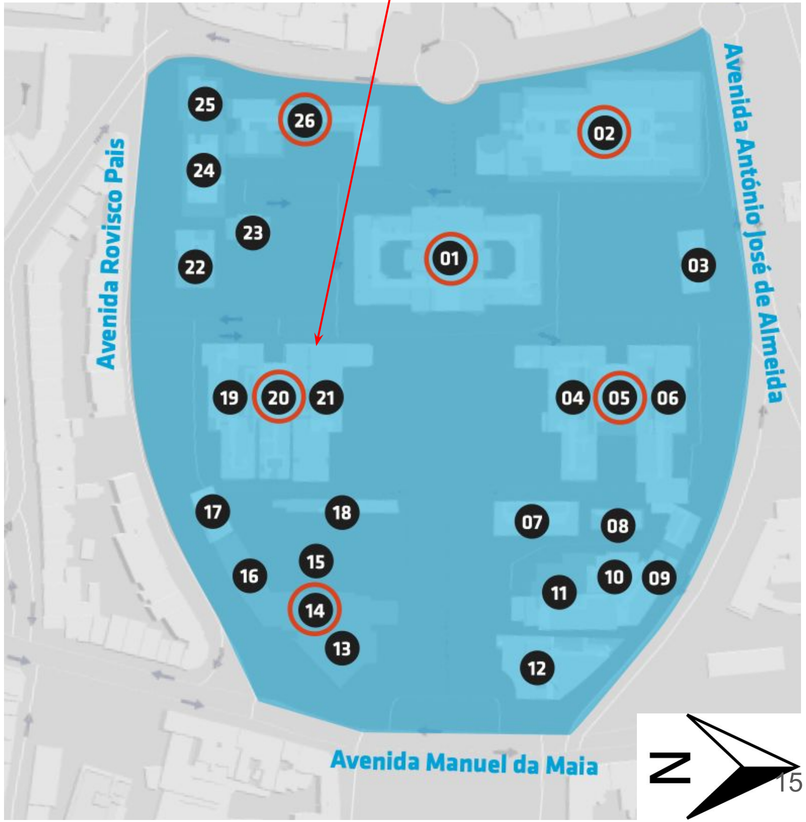
Among the in-campus options:

- The IST canteen (#14) is the cheapest option

- #02 is more expensive but has more options

- #26 serves meals but no vegetarian option

On Wednesday: Workshop photo at beginning of lunch break!



Brief practical information (III)

Breakout room

In addition to this auditorium, we have booked a breakout room on the fourth floor of this building:

QA 4.1

Booked every-day in the afternoon: 13:30 - 19:00

Brief practical information (IV)

Social dinner

Wednesday, January 14th at 7:00 PM

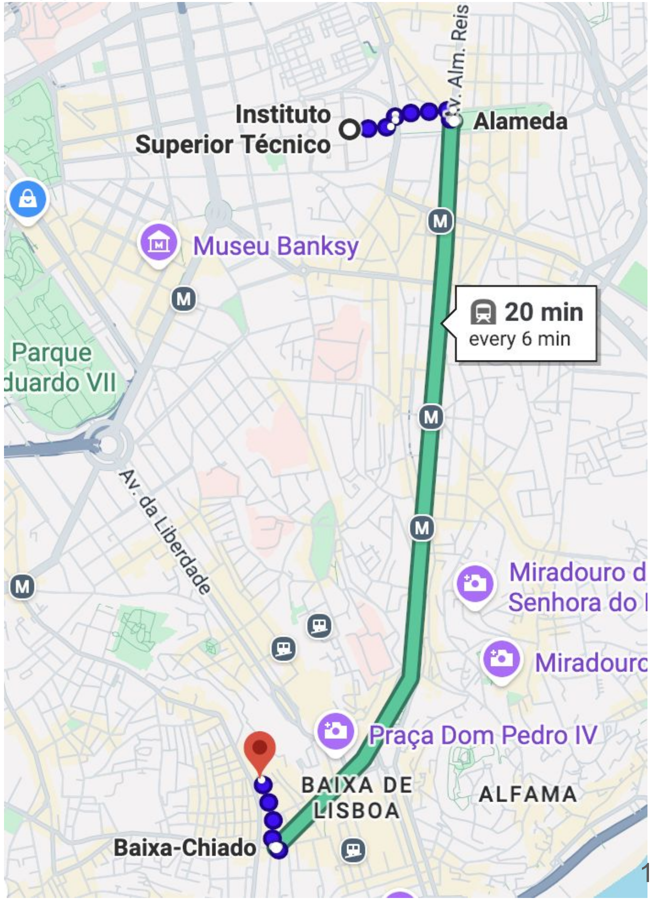
[Restaurante O LARGO]

Largo Trindade Coelho 3 e 4, 1200-334 Lisboa

25 EUR to be paid at the restaurant.

Everyone who signed up should've received a google form to select their menu choices (please let me know otherwise)

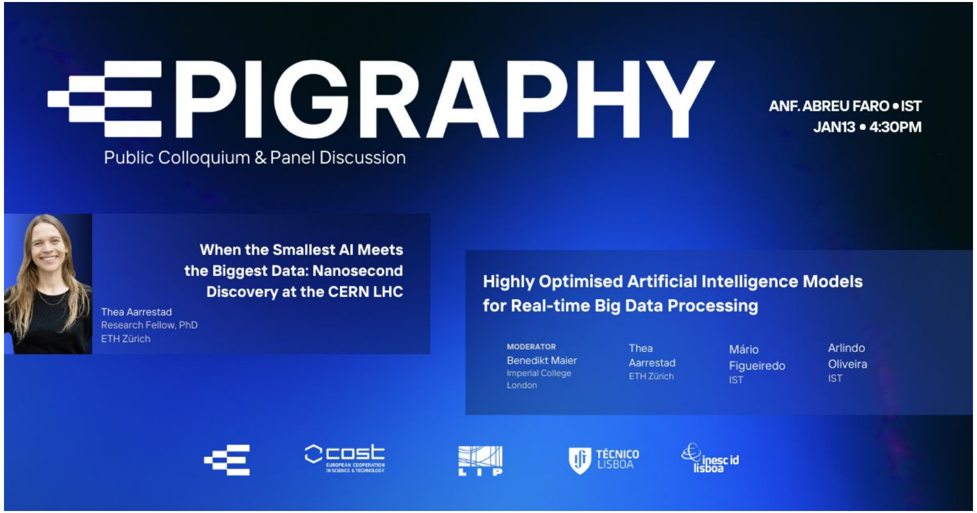
Suggested route from IST:

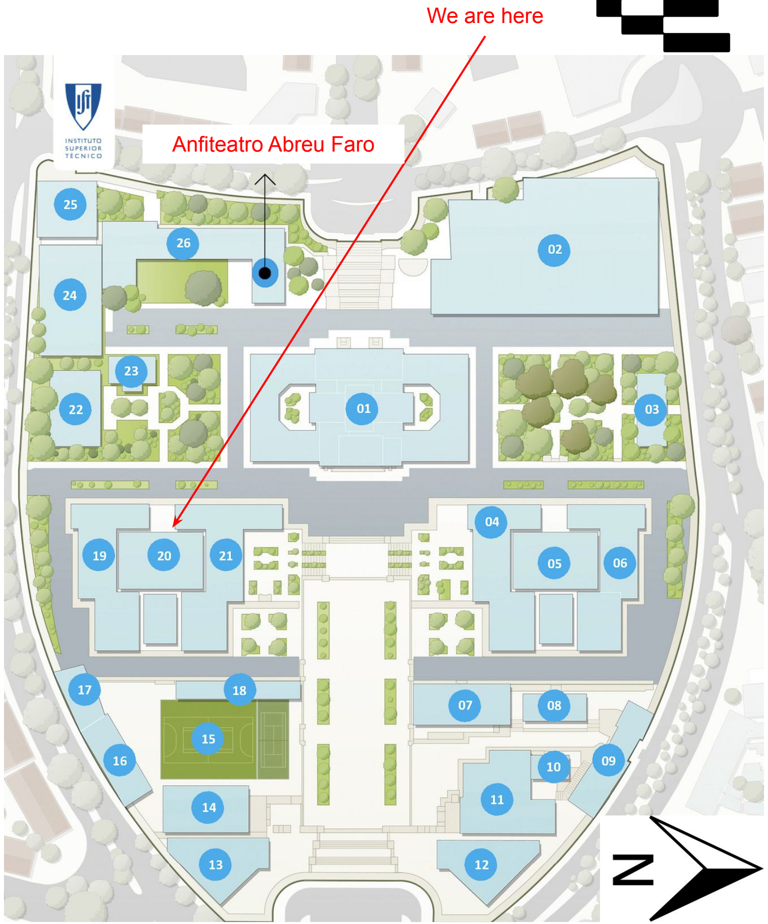


Public Event

Everyone is welcome to join the colloquium and panel discussion tomorrow (January 13th at 4:30 PM), on Anfiteatro Abreu Faro.

A Coffee Break will be served afterwards.





And finally…

As per COST rules, we will be circulating an attendance list **for each day** of the school & workshop.

Please sign your name and country of affiliation.

This is requested by COST to properly account for the number of face-to-face participants and allocate the LOC grant.

EPIGRAPHY

Kickoff School & Workshop IST, Lisbon
12-15 January 2026

Signed Attendance List - January 13

Participant Name	Country of Affiliation

Mattermost channel

https://mattermost.web.cern.ch/epigraphy/channels/kickoff_lisboa_26

Enjoy the event!