

LA RICOTTA SUMMER SCHOOL:

# THE QUANTUM IN THE HAYSTACK



ESPАЗO LA RICOTTA

As Barreiras  
(Castro Caldelas)

29 JUNE - 10 JULY

2026

# LECTURES

- Álvaro Martín Alhambra** (IFT-UAM/CSIC) – *Quantum algorithms for physics: quantum simulation and open systems*
- Jessica Bavaresco** (CNRS & Sorbonne University) – *Higher-order quantum transformations: from quantum circuit design to indefinite causal order*
- Pavel Kos** (University of Ljubljana) – *Solvable Quantum Circuits: Correlations, Chaos, and Information Scrambling*
- Luca Tagliacozzo** (IFF CSIC) – *Tensor network for highly entangled states*

# PRACTICAL INFORMATION

Welcome to As Barreiras! In the following you can find some useful information for your staying.

**As Barreiras and its surroundings:** As Barreiras is a village that has been inhabited until the establishment of the *La Ricotta* project. Castro Caldelas, the main town – known for its historical center, its castle and the *bica*, a typical local sweet – is just  $\sim 4\text{ km}$  far away following the road as well as can be reached through the *Magic Bosque* hiking route, and has shops, bars and two restaurants. The surroundings, the *Ribera Sacra*, is of great naturalistic and anthropological value, characterised by the two canyons of the rivers Sil and Mao with vineyards on the terraces all around the canyons and in the nearby areas. Information about the hiking routes in the immediate surroundings can be found [here](#).

**The venue and the *La Ricotta* project:** The school is hosted in an educational space dedicated to promoting culture in rural areas. Throughout the year, the activities organised there aim to affirm the social and universal value of knowledge as a tool for both individual and collective emancipation. Grounded in inquiry-based learning, this approach enables individuals to engage with issues beyond their existing knowledge and to autonomously develop an understanding of the natural world and social dynamics that is as objective as possible while remaining consciously aware of inherent biases.

**Meals and breaks:** All meals and coffee breaks will be provided by the Asociación Cultural *La Ricotta*. They will be in a buffet- or family-style.

**Wireless and computer facilities:** Wireless internet access is available. The network name is *Theory* while the password *DU202507200801#*.

**Free weekend:** Saturday 4th and Sunday 5th there is no official activity scheduled. The participants are encouraged to explore the area but are also welcome to use the facilities for group discussions or individual work. Extra information about the surroundings will be provided upon arrival and before the weekend

**Contact information:** The postal address of the Espazo La Ricotta, the venue of the school, is As Barreiras 10, 32769 Castro Caldelas (Ourense). In case of any problems or practical questions, please contact Paolo Benincasa (+34 633 21 77 21).

We very much hope that you will find the school both rewarding and enjoyable!

Paolo Benincasa, Javier Mas Solé

# Schedule – Week 1

## Sunday, 28 June 2026

21.00 **Registration/Reception**

## Tuesday 30 June 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **L. Tagliacozzo**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **Á. Alhambra**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (L. Tagliacozzo)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Free  
20.00 – 21.00 **Golondrinas (P. Almalé)**  
21.00 – 22.30 Dinner

## Thursday 2 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **L. Tagliacozzo**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **Á. Alhambra**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (L. Tagliacozzo)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Free  
20.00 – 21.00 **Outreach (J. Santos)**  
20.00 – 21.00 Dinner

## Saturday 4 July 2026

08.00 – 09.30 Breakfast  
09.30 – 13.30 Free  
13.30 – 15.00 Lunch  
15.00 – 20.30 Free  
20.30 – 22.30 Dinner

## Monday 29 June 2026

08.00 – 09.30 Breakfast  
09.30 – 10.30 **Cow-Bell Show**  
10.30 – 11.00 Coffee Break  
11.00 – 12.30 **Á. Alhambra**  
12.30 – 13.00 Break  
13.00 – 14.30 Lunch  
14.30 – 15.00 Break  
15.00 – 16.30 **L. Tagliacozzo**  
16.30 – 17.00 Coffee Break  
17.00 – 19.30 **Tutorial (Á Alhambra)**  
19.30 – 20.30 Break  
20.30 – 22.30 Dinner

## Wednesday 1 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **Á. Alhambra**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **L. Tagliacozzo**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (Á. Alhambra)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 break  
20.00 – 21.00 **Outreach (Á. Alhambra)**  
20.00 – 21.00 Dinner

## Friday 3 July 2026

08.00 – 09.00 Breakfast  
09.00 – 10.30 **L. Tagliacozzo**  
10.30 – 11.00 Coffee Break  
11.00 – 12.30 **Á. Alhambra**  
12.30 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Free Work**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Break  
20.30 – 21.00 **Outreach (N. Vaquero)**  
21.00 – 22.30 Dinner

# Schedule – Week 2

## Sunday, 5 July 2026

08.00 – 09.30 Breakfast  
09.30 – 13.30 Free  
13.30 – 15.00 Lunch  
15.00 – 20.30 Free  
20.30 – 22.30 Dinner

## Tuesday 7 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **P. Kos**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **J. Bavaresco**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (P. Kos)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.30 Free  
20.30 – 22.30 Dinner

## Thursday 9 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **P. Kos**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **J. Bavaresco**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (P. Kos)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Free  
20.00 – 21.00 **Outreach (S. Riera)**  
21.00 – 22.30 Dinner

## Saturday 11 July 2026

06.00 **Departure**

## Monday 6 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **J. Bavaresco**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **P. Kos**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (J. Bavaresco)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.30 Break  
20.30 – 22.30 Dinner

## Wednesday 8 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **J. Bavaresco**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **P. Kos**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Tutorial (J. Bavaresco)**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Break  
20.00 – 21.00 **Outreach (M. Losada)**  
21.00 – 22.30 Dinner

## Friday 10 July 2026

08.00 – 09.30 Breakfast  
09.30 – 11.00 **J. Bavaresco**  
11.00 – 11.30 Coffee Break  
11.30 – 13.00 **P. Kos**  
13.00 – 13.30 Break  
13.30 – 15.00 Lunch  
15.00 – 15.30 Break  
15.30 – 18.00 **Free Work**  
18.00 – 18.30 Coffee Break  
18.30 – 20.00 Break  
20.00 – 21.00 **Outreach (D. Álvarez)**  
21.00 – 22.30 Dinner