

SUMMER SCHOOL ON:

THE DISORDERED UNIVERSE

ESPAZO LA RICOTTA

As Barreiras
(Castro Caldelas)

21 JULY - 01 AUGUST

2025

LECTURES

Dionysios Anninos (King's College London) – *Features of a $\Lambda > 0$ Universe*
Tarek Anous (Queen Mary University of London) – *Statistical systems out of equilibrium*
Thomas Colas (University of Cambridge) – *Open Effective Field Theories,*
Andrew McLeod (Higgs Center, Edinburgh) – *Analytic Properties of Amplitudes and Correlators*

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, with just four buildings, beyond the farmhouse that are regularly maintained. Castro Caldelas, the main town – known for its historical center, its castle and the *bica*, a typical local sweet – is just 4 km far away following the road as well as can be reached following part of 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 in the following webpage

<http://www.castrocaldelas.es/rutas-de-senderismo>

The venue and the *La Ricotta* project: The school is hosted in an educational space dedicated to promoting culture in rural areas, fostering cultural engagement and improving access for local communities. 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 in the seminar room, where the school will be held and in the open area between the seminar room and the farmhouse. The network name is *Theory* while the password *DU202507200801#*.

Free weekend: Saturday 26th and Sunday 27th there is no official activity scheduled, except for the concert by **Pilar Almalé**, offered by the Asociación Cultural “*La Ricotta*” on Sunday. 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, Guilherme Pimentel

Schedule – Week 1

Sunday, 20 July 2025

21.00 **Registration/Reception**

Tuesday 22 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Andrew McLeod**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Thomas Colas**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 20.00 Free
20.00 – 21.00 Dinner

Thursday 24 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Andrew McLeod**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Thomas Colas**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 19.30 **Outreach (L.V. García-Consuegra)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Saturday 26 July 2025

08.00 – 09.30 Breakfast
09.30 – 13.30 Free
13.30 – 15.00 Lunch
15.00 – 20.00 Free
20.00 – 21.00 Dinner

Monday 21 July 2025

08.00 – 09.30 Breakfast
09.30 – 10.30 **Cow-Bell Show**
10.30 – 11.00 Coffee Break
11.00 – 12.30 **Thomas Colas**
12.30 – 13.00 Break
13.00 – 14.30 Lunch
14.30 – 15.00 Break
15.00 – 16.30 **Andrew McLeod**
16.30 – 17.00 Coffee Break
17.00 – 19.30 **Tutorial**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Wednesday 23 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Thomas Colas**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Andrew McLeod**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 19.30 **Outreach (S. Plá García)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Friday 25 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Thomas Colas**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Andrew McLeod**
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 – 19.30 **Outreach (Cosmic Rays Exp.)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Schedule – Week 2

Sunday, 27 July 2025

08.00 – 09.30 Breakfast
09.30 – 13.30 Free
13.30 – 15.00 Lunch
15.00 – 20.00 Free
20.00 – 21.00 **Pilar Almalé**
21.00 – 21.30 Break
21.30 – 22.30 Dinner

Tuesday 29 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Tarek Anous**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Dionysios Anninos**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 20.00 Free
20.00 – 21.00 Dinner

Thursday 31 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Tarek Anous**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Dionysios Anninos**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 20.00 Free
20.00 – 21.00 Dinner

Saturday 02 August 2025

07.00 **Departure**

Monday 28 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Dionysios Anninos**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Tarek Anous**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 19.30 **Colloquium (D. Anninos)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Wednesday 30 July 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Dionysios Anninos**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Tarek Anous**
13.00 – 13.30 Break
13.30 – 15.00 Lunch
15.00 – 15.30 Break
15.30 – 18.00 **Tutorial**
18.00 – 18.30 Coffee Break
18.30 – 19.30 **Outreach (M. Berenguer Mimó)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner

Friday 01 August 2025

08.00 – 09.30 Breakfast
09.30 – 11.00 **Dionysios Anninos**
11.00 – 11.30 Coffee Break
11.30 – 13.00 **Tarek Anous**
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 – 19.30 **Outreach (R. Carrasco Carmona)**
19.30 – 20.00 Break
20.00 – 21.00 Dinner