

# Colloquium n. 662 - Physics-enhanced machine learning and data-driven nonlinear dynamics

## Dates and location

28 April — 30 April 2026, Como, Italy

## Chairperson

Alice Cicirello, University of Cambridge

## Co-chairperson

Eleni Chatzi, ETH Zurich; Andrea Manzoni, Politecnico di Milano.  
Local Organisers Pierpaolo Belardinelli, Attilio Frangi

## Conference fees

- PhD, Research Assistant & Research Associate fee: **420.00 €**
- Regular Registration Fee: **520.00 €**

## What other funding was obtained?

Data-Centric Engineering (DCE), an open access journal at Cambridge University Press, partnered with the EUROMECH Colloquium 662 on Physics-enhanced Machine Learning and Data-driven Nonlinear Dynamics. DCE has subsidised the social activities during the Colloquium 662 with a budget of 1K EUR. Moreover, a special collection on DCE on the Colloquium 662 themes has been launched:

<https://www.cambridge.org/core/journals/data-centric-engineering/announcements/call-for-papers/dce-special-collection-physics-enhanced-machine-learning-and-data-driven-nonlinear-dynamics>

## What were the participants offered?

- Access to all the technical sessions of the event.
- Coffee breaks during the three days (as detailed in the programme)
- Buffet lunches during the three days (as detailed in the programme)
- Welcome drinks with nibbles... a typical apericena by the lake on day 1!
- Excursion on Como Lake on day 2.

The event included talks by two keynote speakers:  
- Kutz Nathan University of Washington Keynote Speaker  
- Cross Elizabeth University of Sheffield Keynote Speaker

Two Early Career Awardee gave invited talks:  
Kissas Georgios ETH Zurich Early Career Awardee  
Franco Nicola Politecnico di Milano Early Career Awardee

The colloquium organisers (listed below), helped with the organization of the event, chaired the sessions of the event and run a lively Panel Discussion on "Future of Physics-enhanced machine learning and data-driven nonlinear dynamics":

Cicirello Alice, University of Cambridge, Colloquium Chair  
Chatzi Eleni ETH Zurich Colloquium Organiser  
Manzoni Andrea Politecnico di Milano Colloquium Organiser  
Belardinelli Pierpaolo Polytechnic University of Marche  
Colloquium Local Organiser  
Frangi Attilio Politecnico di Milano Colloquium Local Organiser

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### PRESIDENT

Professor Marc Geers  
Eindhoven - The Netherlands

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### VICE PRESIDENT

Professor Gertjan van Heijst  
Eindhoven - The Netherlands

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### SECRETARY GENERAL

Professor Jacques Magnaudet  
Toulouse - France

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### MANAGEMENT ADVISOR

Sara Guttilla  
Udine - Italy

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### TREASURER

Professor Kerstin Weinberg  
Siegen - Germany

## **Applicants (members)**

1. Francesco Clementi
2. Yang Liu
3. Luca Rosafalco
4. Tobias Weidemann

## **Applicants (non members)**

1. David Barton
2. Nicolò Botteghi
3. Matt Bryan
4. Tore Butlin
5. Kacper Cerek
6. Max Champneys
7. Jan Decuyper
8. Kasra Djadidian
9. Baiping Dong
10. Paul Fährmann
11. Nicola Farenga
12. Nicola Rares Franco
13. Mengwu Guo
14. John Hickey
15. Samrul Hoda
16. Konstantinos Karapiperis
17. Ioannis Koune
18. Jozsef Kovacs
19. Yi Luo
20. Meng-Ze Lyu
21. Teng Ma
22. Romit Maulik
23. Sarvin Moradi
24. Giorgio Luigi Morales Luna
25. Davide Murari
26. Tim Rogers
27. Matteo Rufolo
28. Mario Sinani
29. Matteo Tomasetto
30. Matteo Torzoni
31. Alessandra Vizzaccaro
32. Konstantinos Vlachas
33. Tairan Wang
34. Francisco Williams Riquer
35. Keith Worden
36. Alan Xavier
37. Pengyu Zhang

## **Scientific report**

Colloquium 662 on

### **Physics-enhanced Machine Learning and Data-driven Nonlinear Dynamics**

was a 3-day event that facilitated in-depth scientific exchanges in a unique lakeside setting.

The event featured:

#### **2 keynotes**

#### **2 Early Career awardee invited talks**

#### **1 Spotlight talk**

#### **15 standard talks**

#### **6 Early Career Awardee Nominations talks**

#### **12 flash talks**

#### **1 panel discussion on “Future of Physics-enhanced machine learning and data-driven nonlinear dynamics”**

The Colloquium 662 attracted participants with a diverse

background in terms of:

**Field:** Engineers, Mathematicians, Computer Scientists, Physicists, and industrial representatives;

**Career stage:** from early career (PhD students, Research Associates) to senior academics;

**From fundamentals to a broad range of applications in solid and fluids and beyond, including:** granular rheology, masonry structures, infrastructures, wind turbines, pile installation, vibro-impactors, NASA UQ challenge, incompressible Flows undergoing a Hopf bifurcation, bio-medical applications, wheel-terrain interaction in off-road vehicle mobility,.... to name some!

The chair would like to thank:

- **EUROMECH:** for the financial support and support in the organisation of the colloquium;
- **The colloquium co-organisers:** without whom this event would not have been possible;
- **Sara Guttilla** (Euromech): for the help in setting up the event and website;
- **Chiara Stefanetti** (from Fondazione Alessandro Volta Villa del Grumello), Alice and the staff of the Villa del Grumello: for providing the perfect venue., local team, food and coffee!
- **Every single participant of Colloquium 662** for the dedication in presenting their work in an accessible way, and for creating a stimulating atmosphere which led to very exciting discussions and hopefully new collaborations;
- **Data-Centric Engineering:** for subsidising the social activities and for hosting a special collection in DCE to amplify the impact of the workshop!

## Number of participants from each country

COUNTRY	PARTICIPANTS
United Kingdom	13
Italy	9
Germany	6
Switzerland	3
Netherlands	2
United States	2
Belgium	1
China	1
Sweden	1
Ireland {Republic}	1
India	1
Canada	1
<b>TOTAL</b>	<b>41</b>