

Doctoral Colloquium on Risk Analytics

A joint initiative of: Collegio Internazionale Ca' Foscari-CICF in Venezia (team leader); IUSS in Pavia; IMT in Lucca; Scuola Superiore F. Rossi in Turin; SISSA in Trieste; Scuole Superiori in Camerino, Macerata, Udine.

The event is organised within the framework of the Project "Educating Future Citizens" funded by Ministerial Decree 291/2024 – National Recovery and Resilience Plan (PNRR), Mission 4 Education and Research, Component 1, Investment 3.4 "Advanced University Teaching and Skills".

April 28, 2025

Aims and scope

The Colloquium is an **honour course** for Doctoral students interested in analytical (both theoretical and applied) methods for the measurement, management and mitigation of risks. It is organized over **four independent 2-week sessions**.

The span of risks considered ranges from standard economic, financial or insurance risks, to emerging ones, such as environmental, climate and cyber risks. The approach is in-depth and multidisciplinary, with lectures, assignments and discussion of the results. The course is organized into four sessions.

Target

Students are PhD candidates from Italian or Foreign Universities, who remain affiliated with their Doctoral School. Students may apply for a session at a time, but need to attend the whole session. They may get credits for the courses taken within the Colloquium.

The maximum size of a class per session is approximately 25. A group of up to 20 students will be offered a full reimbursement of accommodation costs, and a reimbursement of travel

expenses up to a maximum of 200 euro per person. Additional advanced-level students, including further Doctoral Students, Postdocs, Junior Faculty, or PhDs working in the industry, may be admitted at their own expenses.

Practical information

- **Where**

- Sessions 1, 2, and 4: San Servolo Island, Venice.
(<https://servizimetropolitani.ve.it/en/san-servolo-island/where-we-are>)
- Session 3: Camplus Venezia Santa Marta, Venice.
(<https://www.camplus.it/citta/venezia/camplus-santa-marta/>)

- **When**

Four two-weeks sessions between January 2025 and January 2026. The calendar is the following:

Session 1) February, 23 – March, 8, 2025

Session 2) July, 27 – August, 9, 2025

Session 3) September, 14 – 27, 2025

Session 4) January, 18 – 31, 2026

- **How**

Each session offers two courses. Each course is typically delivered over at least 20 hours in one week, combining frontal teaching, office hours/discussions, assignments and presentation of research by the students. Each two-week session must be attended in full, but sessions may be chosen independently of each other.

- **Applying**

Interested students can apply by filling out the form at <https://landing.cafoscarichallengeschool.it/docra/>. (For details, see the “*Information for Students*” section below.) Acceptance of qualified applicants will be on a first-in basis, with a limit of no more than three people from the same doctoral program. The application window for a session opens the week after the end of the preceding session.

- **Who**

The Doctoral Colloquium is organized by the Collegio Internazionale, the Superior School at University Ca' Foscari Venezia:

- *Director*: Marco LiCalzi (U. Ca' Foscari Venezia).
- *Steering Committee*: Elisa Luciano (Chair, U. Torino and Collegio Carlo Alberto), Mavira Mancino (U. Florence).
- *Advisory Board*: Alessandro Armando (IMT Lucca and U. Genoa), Monica Billio (U. Ca' Foscari Venezia), Eugenio Coccia (National Commission for the prediction and prevention of major risks), Mariano Croce (U. Bocconi Milano), Giulia Di Nunno (U. Oslo), Marco Frittelli (U. Milano Statale), Mario Martina (IUSS Pavia), Marco Pagano (U. Napoli Federico II), Fabio Trojani (U. Geneva).
- *Executive secretary*: Marco Corazza (U. Ca' Foscari Venezia).
- **Email**
For information: colloquia.cicf@unive.it.

Overview

There are four 2-weeks sessions. A session consists of two consecutive one-week courses, supplemented by one guest lecture on a topic of special interest. Each session can be chosen independently, but each two-week session must be attended in full. See below for an overview, and the following for more information.

Session 1: Modern risk measurement (23 February–8 March 2025)

- **Week 1** (Mo 24/2 to Fri 28/2) *Measuring and comparing risks* – Lecturer: Alfred Muller, U. Siegen
- **Guest Lecture** (Fri 28/2) *Anatomy and physiology of a cat-risk model* – Lecturer: Mario Martina, IUSS, in Pavia
- **Week 2** (Mo 3/3 to Fri 7/3) *Emerging risks for actuaries: NatCat insurance and climate change* – Lecturer: Hansjörg Albrecher, U. Lausanne

Session 2: New challenges on long-run risks (27 July–9 August 2025)

- **Week 1** (Mo 28/7 to Fri 1/8) *MacroFinTech* – Lecturer: Max Croce, U. Bocconi
- **Guest Lecture** (Fri 1/8) *Horizon risk, what is it and how to tackle it in a dynamic way* –

Lecturer: Giulia di Nunno, U. Oslo

- **Week 2** (Mo 4/8 to Fri 8/8) *Model free pricing and estimation of financial risks* – Lecturer: Fabio Trojani, U. Geneva, U. Torino, Swiss Finance Institute

Session 3: AI for risk (14–27 September 2025)

- **Week 1** (Mo 15/9 to Tue 18/9) *Predictive uncertainty in Machine Learning with conformal inference* – Lecturer: Stefano Favaro, U. Torino, Collegio Carlo Alberto
- **Guest Lecture** (Fri 19/9) *Introduction to CyberRisk* – Lecturer: Alessandro Armando, U. Genoa, IMT in Lucca
- **Week 2** (Mo 22/9 to Fri 26/9) *Concepts of Deep Learning and applications to Finance and Risk Management* – Lecturer: Christa Cuchiero, U. Vienna

Session 4: Networks and risk propagation (18–31 January, 2026)

- **Week 1** (Mo 19/1 to Fri 23/1) *Random graphs and complex networks: Structure and function* – Lecturer: Remco van der Hofstad, Eindhoven, U. of Technology
- **Guest Lecture** (Fri 24/1) *Network Econometrics* – Lecturer: Monica Billio, U. Ca' Foscari Venezia
- **Week 2** (Mo 26/1 to Fri 30/1) *Production Networks* – Lecturer: Alireza Tahbaz-Salehi, Northwestern U.

Information for students

Thank you for your interest in our Colloquium. Please find below some information.

Application

- Applications can be submitted by filling the form available at <https://landing.cafoscarichallengeschool.it/docra/>. You are kindly asked to give information about your doctoral status, upload your CV (including doctoral courses taken with grades) and the name of one faculty member from your doctoral program who will (separately) submit a reference letter to licalzi@unive.it with subject DoCRA: Reference Letter.
- To ensure diversity, we cannot accept more than three students from the same program.
- To mitigate the risk of no-show, we ask you to confirm your intention by sending us a payment of 120 euro within five days from admission. Payment instructions will be provided by the Secretary after admission. This money will co-fund 10 light lunches for you during the weekdays. We cover the rest of the expenses related to these 10 light lunches.
- Applications are processed on a “first-in first-out” basis, **after** the reference letter. Admissions are communicated immediately, up to 20 students. We keep a waiting list (same ordering) if a place opens up or the payment of 120 euro is not received in time.

Attendance

- You are expected to attend all lectures and related activities from Monday in the first week to Friday of the second week. There are no classes during the week- end.
- Nevertheless, you are expected to attend at least 80% of all lectures and related activities. If you fail to meet the 80% attendance requirement without a justified reason, travel expenses will not be reimbursed.
- Tentative timetable of **weekly** lectures:
 - Monday: 9:00 am-10:30 am, and 11:00 am-12:30 pm, and 2:00 pm-3:30 pm
 - Tuesday: 9:00 am-10:30 am, and 11:00 am-12:30 pm
 - Wednesday: 9:00 am-10:30 am, and 11:00 am-12:30 pm, and 2:00 pm-3:30 pm

- Thursday: 9:00 am-10:30 am, and 11:00 am-12:30 pm, 2:00 pm-4:00 pm
- Friday: 9:00 am-10:30 am, and 11:00 am-12:30 pm
- Tentative timetable of **guest** lectures:
 - Friday: 2:30 pm-4:00 pm.

Please note that these times are tentative and therefore subject to change.

Auditing

- We have room to accommodate up to five **auditors** for each course. They may be doctoral students, or post-docs, or junior faculty within five years from obtaining their ph.d. Auditors are asked to fill the form at available at the form available at <https://landing.cafoscarichallengeschool.it/docra/>. We cannot offer financial support to auditors; in particular, they are responsible for their accommodation and any other necessary expense.
- Auditing applications are processed on a first-in first-out basis. The reference letter or the 120 euro deposit are not required. Admissions are communicated immediately, up to 5 people. We keep a waiting list if a place opens up.

Location

- Sessions 1, 2 and 4 of the Colloquium take place in the island of San Servolo, one boat stop from Piazza San Marco. The public service ("vaporetto") is number 20. Timetable: https://avm.avmspa.it/sites/default/files/avm/navigazione/Actv_nav_linea_20.pdf. The island is the seat of Venice International University, and has lecture halls, study rooms, a library, as well as lodging and a restaurant. For more information, visit <https://servizimetropolitani.ve.it/en/san-servolo-island/where-we-are>.
- Sessions 3 of the Colloquium takes place in the campus Camplus Venezia Santa Marta, accessible by ACTV public waterbus and within walking distance from the bus terminal and the train station. For more information, visit <https://www.camplus.it/en/city/venice/camplus-santa-marta/>.

Accommodation

- We will arrange and cover your accommodation for 13 consecutive nights in a single room at

Il progetto EFC - Codice progetto SSU2024-00002, finanziato ai sensi dell'art. 11, comma 1, dell'Avviso 594/2024, in favore dei Soggetti attuatori della Missione 4, Componente 1, Investimento 3.4 "Didattica e competenze universitarie avanzate" è supportato dal PNRR, Sotto-investimento "Rafforzamento delle Scuole universitarie superiori. Ne fanno parte: Scuola Universitaria Superiore IUSS - Pavia Capofila; Scuola IMT AltI Studi - Lucca; Scuola Internazionale Superiore di Studi Avanzati (SISSA) - Trieste, e 5 scuole di ateneo - Scuola di studi superiori «C. Urbani» - Università di Camerino; Scuola di studi superiori «G. Leopardi» - Università di Macerata; Scuola di studi superiori «F. Rossi» - Università di Torino; Scuola superiore dell'Università degli studi di Udine e Collegio internazionale Ca' Foscari - Università di Venezia.

the facility designated for the session, from the Sunday before the first class to the Saturday after the last class. Please, note that the cost will be supported by the organization and therefore will be free of charge for you. Therefore, will be free for participants. Extensions are not possible. Meals are not covered.

- If you plan not to use the first or the last night, please let us know as soon as possible so that we can save some money. If you have special needs, please let us know.
- In case of early departure without proper prior notice, up to two unused booked nights will be charged to the participant.

Transportation

- We reimburse transportation costs up to a maximum of 200 euro per person, but we have to kindly ask you to abide by the following rules.
 - Trains: We can reimburse tickets in second class.
 - Flights: We can reimburse economy class tickets.
 - Local transportation: We can reimburse the waterbus ticket for the day of arrival and the waterbus ticket for the day of departure. The 7-day local transportation pass is reimbursable, but only up to the portion that falls within the 200 euro maximum budget.
- Tickets: Please retain copies of all tickets, which must be submitted to the Secretary for reimbursement purposes (digital copies are acceptable).
- For travel expenses incurred in a foreign currency, the exchange rate published by the Bank of Italy on the date of purchase will be applied. If the travel document already indicates the amount converted into euros, that amount will be accepted as is.

Contacts

- Information and practicalities: colloquia.cicf@unive.it.
- Marco Corazza: corazza@unive.it.
- Marco LiCalzi: licalzi@unive.it.