

## REGISTRATION

The registration costs include coffee breaks, the technical visit, and banquet dinner. Please visit the site for more information.

## FEES AND PAYMENT

- Students, PhDs, research fellows belonging to DICATAM: free of charge
- Other students, PhDs, research fellows: 200 €
- Engineers and practitioners: 400 €
- Engineers registered with the Brescia Engineer Chamber (Ordine): 300 €
- Engineers member of CTE or fib: 350 €

## CONTACTS

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## ORGANIZING AND SCIENTIFIC COMMITTEE

Professor Fausto Minelli  
Professor Giovanni Plizzari  
Engineer Anna Bontempi

Visit our website at:

[bridgesummerschool.unibs.it](http://bridgesummerschool.unibs.it)



## VENUE

Set between Milan and Verona at the foot of the Alps, Brescia is the second largest city in Italy's northern Lombardy Region, with 200.000 inhabitants. The city's rich history dates back to pre-Roman times, when it was a Gallic capital. Among the many great local sights are the 11th-century "Duomo Vecchio" (Old Cathedral, also called "La Rotonda"), unique for its circular shape, the 17th-century "Duomo Nuovo" (New Cathedral) nearby, and the first-century Roman ruins at "Tempio Capitolino". Brescia is also famous for its lakes (Garda, Iseo and Idro) surrounded by mountains and vineyard-covered hills.



## HOW TO REACH UNIVERSITY OF BRESCIA

### **By air from these airports:**

Milano Orio al Serio,  
Verona Villafranca,  
Milano Linate, Milano Malpensa

### **By car:**

Highway A4, exit Brescia Ovest  
Highway A21, exit Brescia Centro

### **By train:**

Brescia Railway Station

## HOW TO REACH DICATAM

The engineering school can be reached by Metro bound to Prealpino (Stop: Europa)

## HOTEL LIST

Hotel Vittoria \*\*\*\*\*  
Hotel Master \*\*\*\*  
DoubleTree by Hilton Brescia\*\*\*\*  
Hotel Ambasciatori \*\*\*\*  
B&B Hotel Brescia \*\*\*  
B&B Ai Musei Brescia \*\*\*  
Regal Hotel \*\*\*

# 3<sup>RD</sup> INTERNATIONAL SUMMER SCHOOL



## STRENGTHENING TECHNIQUES OF EXISTING BRIDGES

**BRESCIA**  
**JUNE 29 - JULY 3, 2026**

Chairman:  
Prof. Fausto Minelli

**UNIVERSITY OF BRESCIA**  
**DICATAM**  
Department of Civil, Environmental,  
Architectural Engineering and Mathematics



Università  
di Brescia



ORDINE  
DEGLI INGEGNERI  
DELLA PROVINCIA  
DI BRESCIA



## AIM AND SCOPE

The main objective of this Summer School is to provide advanced training in existing bridge engineering, with specific focus on safety assessment, risk classification and management, deterioration analysis, innovative materials and strengthening techniques.

Existing bridges are strategic assets within transport infrastructure networks. During their service life, they may be affected by increasing traffic loads, material deterioration, ageing, changes in design standards and, in many cases, seismic vulnerabilities not explicitly considered at the time of construction. These issues require reliable assessment procedures, effective maintenance strategies and innovative strengthening solutions.

The 2026 edition will address current challenges in bridge assessment and intervention, including the Italian Guidelines for risk classification and management of existing bridges, prestressed concrete bridge technology, nonlinear finite element analysis, shear assessment, reuse of existing bridge components, and case studies on large-span and small-span bridges. Particular attention will be devoted to innovative strengthening techniques and materials, such as UHPFRC, FRP composites, high-performance concretes and sustainable fibre-reinforced solutions.

The course will combine lectures by internationally recognized experts, research presentations, design examples, case studies and a technical visit to reinforced concrete arch bridges in Valvestino. It will offer participants a multidisciplinary perspective, integrating structural analysis, material technology, monitoring, inspection, design standards and practical intervention strategies.

The main goal of the Summer School is to provide participants with a solid scientific and practical background while enhancing interaction between academic research and professional practice.

## WHO SHOULD ATTEND

The Summer School is addressed to V year students, PhD candidates, researchers, university staff, professionals, infrastructure managers and public authorities interested in the safety, management and strengthening of existing bridges and infrastructures.

## CAREER OPPORTUNITIES

The school is a unique chance to meet peers, experts and practitioners in the field.

## INTERNATIONAL AND NATIONAL LECTURES

- ❖ **Antonino Recupero**, Full Professor, University of Messina
- ❖ **Mário Pimentel**, Associate Professor, University of Porto (Portugal)
- ❖ **Yuguang Yang**, Associate Professor, TU Delft (Netherlands)
- ❖ **Christian Carloni**, Associate Professor, Case School of Engineering (Ohio, USA)
- ❖ **Fausto Minelli**, Full Professor, University of Brescia
- ❖ **Aurelio Muttoni**, Professor Emeritus, EPFL (Lausanne)
- ❖ **Giovanni Plizzari**, Full Professor, University of Brescia

## LOCATION

Room B.03 (ground floor) – via Branze 43

## COURSE SCHEDULE

### Monday June 29, 2026

- 8:30 – 9:30 Registration
- 9:30 – 11:00 **F. Minelli**: *Guidelines for risk classification and management, safety assessment and monitoring of existing bridges. Experiences in Northern Italy*
- 11:00 – 13:00 **A. Recupero**: *Prestressing in Italian Bridges: the technology behind a nation's reconstruction*
- 14:30 – 16:00 **G. Plizzari**: *Strengthening Existing Bridges with UHPFRC: from Material to Structure - Case Studies – PART I*
- 16:00 – 18:30 PhD Defenses of:  
**Dr. Anna Bontempi**: *Structural Assessment of Existing Deteriorated Girders and Advanced Strengthening Strategies: Analytical, Experimental and Numerical Approaches*  
**Dr. Matteo Lamberti**: *High-performance concretes for the repair and strengthening of structural elements and infrastructure components - Fiber reinforced concrete incorporating recycled aggregates for sustainable strengthening*

### Tuesday June 30, 2026

- 9:00 – 11:00 **M. Pimentel**: *Safety assessment of existing concrete bridges using NLFEA and the global resistance safety factor concept: a case study*
- 11:00 – 13:00 **Y. Yang**: *Shear Assessment of Small-Span Concrete Slab Bridges and Precast Girder Bridges: Experimental Research at TU Delft*
- 14:30 – 17:30 **Y. Yang**: *Reuse of Bridge Components in New Structures; Assessment of Balanced Cantilever Bridges: Case Studies*

### Wednesday July 1, 2026

- 9:00 – 13:00 **C. Carloni**: *FRP Composites for Strengthening Reinforced and Prestressed Concrete Structures: Materials, Testing Standards, Bond Behaviour and Design Principles*
- 14:30 – 18:30 **Technical visit to Valvestino RC arch bridges**

### Thursday July 2, 2026

- 9:00 – 13:00 **A. Muttoni**: *Case studies of assessment and interventions on bridges*
- 14:30 – 16:00 **F. Minelli**: *Strengthening Existing Bridges with UHPFRC: from Material to Structure - Case Studies - PART II*
- 16:00 – 17:30 PhD Defense of **Dr. Giulia Rossini**: *Stress-release methods for the structural assessment of bridge girders with an emphasis on shear*

### Friday July 3, 2026

- 9:00 – 13:00 **C. Carloni**: *Design Examples for FRP Strengthening of Reinforced and Prestressed Concrete Structures: ACI 440, European Codes, Anchors and Confinement*
- 13:00 **Closure**

### Friday July 3, 2026 - Afternoon

- 14:30 – 17:30 SEMINAR IN ITALIAN for qualified engineering professionals (3CFP): *The state of the art in the management of existing bridges, six years after the publication of the recent Italian Guidelines for risk assessment, safety evaluation, and monitoring of existing bridges.*