

2ND INTERNATIONAL SUMMER SCHOOL

STRENGTHENING TECHNIQUES OF EXISTING BRIDGES

BRESCIA
JULY 4-8, 2022

Chairmen:

Prof. Fausto Minelli and Prof. Giovanni Plizzari

UNIVERSITY OF BRESCIA
DICATAM

Department of Civil, Environmental, Architectural
Engineering and Mathematics



REGISTRATION

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

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 COMMITTEE

Professor Fausto Minelli
Professor Giovanni Plizzari
Engineer Fabiola Iavarone
Engineer Nico Di Stefano
Engineer Enrico Faccin
Engineer Stefano Giuseppe Mantelli



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 Rondana"), 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.

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 *****

AIM AND SCOPE

Main objective of this Summer School is to provide innovative training ground, experience in existing bridge engineering with respect to the increasing need of safety, assessment, monitoring and retrofitting of existing ones.

It is well known that traffic volumes and loads can greatly increase during the life-span of an infrastructure. The infrastructure performance can fall under a warning level and a strengthening or repairing intervention become necessary. In other cases, the environmental conditions lead to a premature deterioration of the materials and an extremely quick intervention is needed as well. Moreover, some infrastructure elements were built before the seismic codes were available or before the seismic risk was recognized in the area of construction.

Deterioration of materials, higher traffic loads, seismic hazard are determining the need of defining innovative structural solution and new analyses and retrofitting techniques for existing bridges.

Some bridge major collapses occurred in the last few years in Italy brought high attention and warning on the safety of bridges and, more in general, on the infrastructure system in Italy.

There is a significant and growing need for the strengthening of existing reinforced concrete structures. Structural deterioration may have taken place, a change in use could result in more onerous loading, or requirements of design and loading Standards may change.

There is a need for techniques that can provide cost effective solutions to both the design and implementation of strengthening measures. Moreover, there is a stronger need than ever to grow researchers/practitioners that combine a robust academic foundation in structural analysis/conceptual design with practical experiences, technological expertise with awareness of the socio-economic impact in the field of existing infrastructures.

Hence, main goal of the Summer School is to offer innovative background, both analytical and practical, on structures and infrastructures, as well as laboratory experience.

The Summer School will be supported by the International Association for Structural Concrete (fib) and by the Engineering Chamber of Brescia.

WHO SHOULD ATTEND

V year engineering students, Graduate students, postdoctoral researchers, university staff, and practitioners willing to do research and applications in the field of bridges and infrastructures.

COURSE SCHEDULE

Monday July 4, 2022

8.30 – 9.00: Registration

9.00 – 10.45 F. Minelli: *Guidelines for risk classification and management, safety assessment and monitoring of existing bridges. Experiences Northern Italy*

11.00 – 13.00 M. Di Pisco: *The bridges in Italy: state of the art, case studies, research in progress and rational approaches to select intervention priorities*

14.00 – 15.30 H. Corres: *Sustainability in existing bridges: value of the interventions*

15.45 – 17.00 H. Corres: *Interventions in existing bridges and buildings. Case studies: Rande cable and Alcoi cable*

Tuesday July 5, 2022

9.00 – 13.00 H. Corres: *Suspension bridge in Santos, Brazil:*