



**IRF**  
GLOBAL

# Bridge Management & Inspection

*Expert training by professionals, for professionals*

**Milan, Italy**  
**June 19 – 23, 2023**



# Workshop



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## Background

Bridges are some of a road agency's most expensive assets to build and maintain. However, too often, their maintenance needs are neglected and/or deferred, which can have disastrous consequences, as we have witnessed recently with several high-profile bridge failures around the world. That's why it is essential for road agencies to have a robust bridge management and inspection program in place that ensures the safety of the traveling public and maximizes the value of these vital assets.

This course presents best practices and state-of-the-art methods for effective bridge maintenance, management, and inspection. A major part of the course focuses on bridge repair and rehabilitation issues, bridge management systems, the needs of highway agencies, and bridge-related safety and risk issues. It also addresses best practices for bridge inspections and how to utilize new technologies for accurate results in a timely and cost-efficient manner.

The contents of the course are based on international standards as well as the hands-on experience of the course instructors.



IRF Global is now recognized as an approved training provider by the Chartered Institution of Highways and Transportation (CIHT), a respected professional body that provides transportation professionals with recognition, support and business insights to accelerate their careers and influence the future of the sector.

## Learning Objectives

- ✓ Better understanding each of the aspects of Existing Bridge Inventory and Inspection and their related functions
- ✓ Recognize the main structural problems of bridges;
- ✓ Gain knowledge of the main techniques of structural investigation and structural monitoring;
- ✓ Understand the importance of good bridge inspection practices in order to achieve optimal bridge management targets;
- ✓ Acquire the most up-to-date techniques for bridge inspection;
- ✓ Learn about bridge management optimization and tools for resource allocation;
- ✓ Understand predictive bridge maintenance and its possible applications.

## Target Audience

- ✓ Road & Bridge Authorities & Operators
- ✓ Bridge Design Consultants
- ✓ Bridge Program Managers
- ✓ Designers
- ✓ Transportation Planners
- ✓ Bridge Management Engineers
- ✓ Bridge Preservation & Maintenance Engineers
- ✓ Bridge Inspectors

## Instructor



**Michele Frizzarin** is a structural engineer with 16 years' experience in the field of analysis and verification of existing structures. In particular he gained expertise in the inspection and structural analysis of existing concrete, steel and masonry infrastructures, as well as historical buildings and monuments. He furthered his education in the study of the dynamic and seismic behavior of structures and work constantly in universities for the organization of technical courses of construction and structural dynamics. He is partner and R&D Manager of Franchetti Group, headquartered in Italy, branches in Brazil, Canada and India. The Company operates in the field of civil engineering and asset management with the collaboration of more than 70 engineers.

## Registration (No Hotel Included)

- 2,500 USD IRF Members /Groups of 3 or more)
- 3,000 USD Non IRF Members

### **Seminar Hotel:**

Four Points by Sheraton  
Milan Center  
Via Cardano 1, 20124 Milano, Italy  
Fourpointsmilan.com

**Registration:** <https://www.irf.global/event/brm23-ws-milan/>

**For any support, please contact** [melabyad@irf.global](mailto:melabyad@irf.global)

# Schedule

Monday to Friday (9:00 AM – 4:30 PM)

<b>Session 1: June 19 (9:00 AM – 12:00 PM) BRIDGE MANAGEMENT DEFINITION AND CHARACTERISTICS</b>	Session 1 learning objectives: <ul style="list-style-type: none"><li>• What is Bridge Management and why it is important</li><li>• Type of bridges</li><li>• Bridge elements</li></ul>
<b>Session 2: June 19 - Afternoon BRIDGE DESIGN AND VULNERABILITY</b>	Session 2 learning objectives: <ul style="list-style-type: none"><li>• Main design and construction rules</li><li>• Bridge main defects and weaknesses</li><li>• Bridge collapses</li></ul>
<b>Session 3: June 20 - (9:00 AM – 12:00 PM) EXISTING BRIDGE INVENTORY</b>	Session 3 learning objectives: <ul style="list-style-type: none"><li>• Bridge inventory standards</li><li>• Bridge inventory rules and common practices</li></ul>
<b>Session 4: June 20 - Afternoon DEFECTS AND PATHOLOGY</b>	Session 4 learning objectives: <ul style="list-style-type: none"><li>• Existing bridge defect classification</li><li>• Existing bridge pathologies</li><li>• National and international standards</li><li>• Examples and case studies</li><li>• How to learn and recognize defects</li><li>• Personnel certification</li></ul>
<b>Session 5: June 21 - (9:00 AM – 12:00 PM) DIAGNOSTIC TESTS AND STRUCTURAL MONITORING</b>	Session 5 learning objectives: <ul style="list-style-type: none"><li>• Main diagnostic tests for bridges</li><li>• Main principles of structural monitoring</li><li>• Examples</li></ul>
<b>Session 6: June 21 - Afternoon NEW BOUNDARIES IN BRIDGE INSPECTION</b>	Session 6 learning objectives: <ul style="list-style-type: none"><li>• Limits of standard practices</li><li>• New techniques and tools</li><li>• Future developments</li></ul>
<b>Session 7: June 22 - (9:00 AM – 12:00 PM) BRIDGE ASSET MANAGEMENT</b>	Session 7 learning objectives: <ul style="list-style-type: none"><li>• Bridge Management System</li><li>• Bridge management practices</li><li>• Prioritization</li></ul>
<b>Session 8: June 22 - Afternoon PREDICTIVE MAINTENANCE</b>	Session 8 learning objectives: <ul style="list-style-type: none"><li>• Management of single bridge</li><li>• Management of stock of bridges</li><li>• New boundaries and optimal resource allocation</li></ul>
<b>Session 9: June 23 – (9:00 AM – 4:00 PM) FIELD TRIP/SITE VISIT</b>	Session 9 learning objectives: <ul style="list-style-type: none"><li>• Bridge inventory application</li><li>• Bridge inspection application</li><li>• Examples of bridge defects</li></ul>

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## **International Road Federation**

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