



IRF
GLOBAL

Sustainable Pavement Design

Porto, Portugal
October 17-21, 2022



Workshop



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Background

This training course is designed to provide a comprehensive knowledge of the basic concepts and recent advances related to pavement design, analysis and construction. Participants will learn about recent developments in designing and maintaining sustainable pavements. They will be guided through various interactive course modules to develop skills and knowledge to employ standard guidelines and specifications related to both flexible and rigid pavements. Throughout this course, the sustainability considerations for design and construction of pavements will be discussed. Innovations and advances in pavement engineering with regards to design, analysis and construction, will also be addressed through dedicated modules for each topic. A special focus will be on Environmental, Social, and Governance (ESG) issues, long-term performance, reducing environmental impacts and a maximizing the socio economic outcomes.

Learning Objectives

- ✓ Understand the basic concepts of different pavement structures
- ✓ Become familiar with local standards and specifications regarding the design and construction of pavements
- ✓ Understand the basic concepts of pavement structures and their functional properties
- ✓ Understand the process for design of pavement system using both empirical and mechanistic approaches
- ✓ Learn about recycling and innovative materials
- ✓ Gain practical techniques in asphalt pavement maintenance and asset lifecycle extension
- ✓ Learn about the advances and innovations in pavement construction

Target Audience

- ✓ Road Authorities & Operators
- ✓ Road Design Consultants
- ✓ Road Contractors
- ✓ Maintenance Personnel
- ✓ Pavement design engineers
- ✓ Geotechnical engineers
- ✓ Materials engineers

Instructor



Mehran Mazari, Ph.D.

Associate Professor, California State University Los Angeles

Dr. Mehran Mazari is an Associate Professor in the Department of Civil Engineering at Cal State LA, specializing in Transportation Infrastructure and Materials. He is the director of Sikand Center for Sustainable and Intelligent Infrastructures (SITI-Center) and founder of Sustainable Infrastructure Materials Research Lab (SIM-Lab) at Cal State LA. His research interests include sustainable and resilient transportation infrastructure, transportation infrastructure materials, and non-destructive evaluation of transportation infrastructure. He is a member of technical committees at the Transportation Research Board of National Academies of Science and Engineering and co-chair of the LTPP subcommittee of the Highway Pavement Committee of the American Society of Civil Engineers (ASCE). Dr. Mazari has published more than 70 peer-reviewed journal and conference papers. He has been actively involved in several national and state research projects, including National Highway Cooperative Research Program (NCHRP) and Federal Highway Administration (FHWA), among others.

Registration (hotel accommodation not included)

- 2,000 USD IRF Members / Groups of 3 or More
- 2,500 USD NON IRF Members

Register at: <https://www.irf.global/event/pvmt22-ws-oct-porto>



Schedule

Monday – Friday (9:00 AM– 4:00 PM US EST)

October 17

Introduction and Overview of Pavement Design Methods
Empirical Pavement Design Methods
Mechanistic-Empirical Design Approach
Advances in Pavement Structural Design and Analysis
Mix Design Approaches
Performance Based Mix Design
Advances in Mix Design and Performance Evaluation

October 18

Introduction to Sustainable Design
Fundamental Concepts of Sustainability
Sustainable Pavement Material types
Sustainability Performance Measures
Estimating the Sustainability Measures
Tools to Evaluate Sustainable Materials

October 19

Introduction to Life Cycle Cost Analysis (LCCA)
Application of LCCA for Sustainable Infrastructure Materials
Tools to Evaluate and Perform LCCA
Introduction to Life Cycle Assessment (LCA)
Environmental Parameters for LCA
Tools to Perform LCA for Sustainable Pavement Materials

October 20

Sustainable Design Considerations
Review of Case Studies for Sustainable Design of Infrastructure Materials
Tools to Incorporate Sustainability in Design
Innovations and Advances in Sustainable Construction
Performance Monitoring and Evaluation
Sustainable Maintenance and Rehabilitation

October 21

Special Topics in Sustainable Materials
Use-Phase Criteria in LCA
Innovations and Emerging Topics in Sustainability Research
Advances in Sustainable Design and Construction
Recycled Materials
Sustainability Rating for Infrastructure and Materials

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GLOBAL HEADQUARTERS & SECRETARIAT

Madison Place

500 Montgomery Street, Fifth Floor

Alexandria, VA 22314 USA

Telephone: +1 703 535 1001 Facsimile: +1 703 535 1007

REGIONAL OPERATIONS

Brussels, Belgium | Accra, Ghana

Nairobi, Kenya | Kuala Lumpur, Malaysia

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