Dov Leshchinsky

He holds a B.Sc. degree in Civil Engineering, and M.Sc. and Ph.D. in Geotechnical Engineering. He has nearly 40 years of experience in Geotechnical Engineering.

As a consultant, Dov has been involved in major geotechnical projects in the US and abroad. He has nearly 46 years of experience with computer programming and numerical methods. For 32 years he had served as a professor of geotechnical engineering at the University of Delaware.

He has published well over 100 refereed papers, many with results of numerical analysis leading towards advances in design methods. His geotechnical expertise relates to slope stability, reinforced soil, ground modification, and foundation engineering. He teaches short courses on MSE structures, design of slopes and embankments, and shallow foundations. He has rendered services as an expert witness in national and international cases of geotechnical failures.

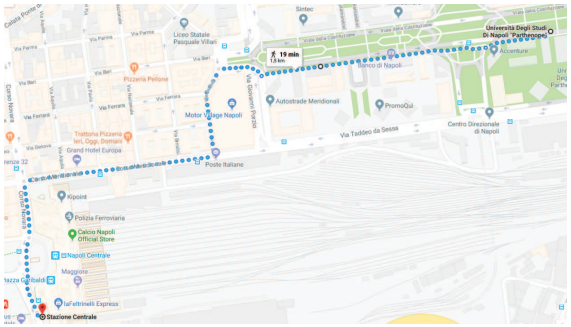
Dov is now a Professor Emeritus in the Department of Civil and Environmental Engineering, University of Delaware (USA).

REGISTRATION

Registration shall be done only through the site *ordineingegnerinapoli.com*, section *eventi organizzati dall'ordine*

VENUE

Aula Magna
Università degli Studi di Napoli Parthenope
Centro Direzionale, Isola C4, Napoli



For further information please contact:
Sabrina Moretti
PhD student University of Naples Parthenope
Email: sabrina.moretti@uniparthenope.it

Ordine degli Ingegneri della provincia di Napoli

Commissione Geotecnica

SHORT COURSE
Geosynthetic Reinforced Soil Walls and Slopes: Theory and Application

WORKSHOP
1. Limit State Design Framework for Geosynthetic Reinforced Soil Structures
2. Lesson Learned from Failed MSE Walls

Dov Leshchinsky

Professor Emeritus
University of Delaware (USA)

coordinated by:

Stefano Aversa
University of Naples Parthenope

Sabatino Cuomo
University of Salerno

with the patronage of:
AGI, AGI-IGS

AGI - IGS Sezione Italiana dell' International Geosynthetics Society

Naples, March 15 2018

Seminar (Short Course)

Geosynthetic Reinforced Soil Walls and Slopes: Theory and Application

This short course provides an overview of modern soil reinforcing technology with an emphasis on geosynthetics. It illustrates the various available reinforcing materials, the facing components, and construction techniques. It presents briefly the principles of soil reinforcement. It then follows with discussion on the basic relevant material properties needed to produce design of structures with long-term predictable performance. The methodologies to calculate the strength and layout of reinforcement in walls and slopes are also presented. It includes examination of various limit state failures needed to produce a stable structure. Brief computer runs, including the use of the safety map diagnostic tool, are demonstrated to show how tedious designs can be done quickly.

Conference (Workshop) - part 1

Limit State Design Framework for Geosynthetic Reinforced Soil Structures

Conventional design of geosynthetic-reinforced soil structures is divided into two categories, walls and slopes, each requiring different analysis. Internal stability, characterized as sufficient reinforcement anchoring and strength, is performed using earth pressure-based design criteria for reinforced walls while reinforced slopes are founded on limit equilibrium (LE) slope stability analyses. LE analyses are also used to assess the global or compound stability of both types of structures, accounting for the geometry of the reinforced, retained and foundation soils.

The application of LE-based methods typically results in determination of a slip surface corresponding to the lowest Factor of Safety (FS). However, it yields little information about individual reinforcement loading or connection load. In this study, use of the analyzed spatial distribution of SF known as a Safety Map, is modified to attain a prescribed constant FS at any location in the reinforced soil mass.

Conference (Workshop) - part 2

Lessons Learned from Failed MSE Walls

During the past three decades, MSE walls have gained acceptance in major critical applications. Generally, MSE walls are economical, aesthetically pleasing and, if properly designed and constructed, safe. However, as is the typical case with fine-tuned efficient structures, details are critically important since structural redundancy could be limited. Five case histories of failed MSE walls are presented. These walls include metallic and geosynthetic reinforcement, and facing made of steel mesh, small concrete units, or large reinforced concrete panels. One wall had a simple geometry, two had multiple tiers, one failed a year after construction, and one was a 6 mile long seawall. Four cases were in the US while the seawall case was in Australia. Forensic studies are discussed. It is concluded that the likely reason for the failure of one wall was design error while the other four walls failed due to poor construction. Not surprisingly, it is shown that the cost of repair is far more expensive than the savings due to skimped construction.

PROGRAM

9:00 – 12:00

Welcome greetings

Prof. Stefano Aversa
University of Naples Parthenope

Ing. Sergio Gobbi
Ordine degli Ingegneri di Napoli

Prof. Sabatino Cuomo
University of Salerno

Seminar (Short Course)

Geosynthetic Reinforced Soil Walls and Slopes: Theory and Application
(Dov Leshchinsky)
(Max 40 participants, < 35 years old will have priority for registration)

12:30 – 14:30

Lunch

15:00 – 18:00

Conference (Workshop)

1. ***Limit State Design Framework for Geosynthetic Reinforced Soil Structures"***
   (Dov Leshchinsky)

2. ***Lessons Learned from Failed MSE Walls***
   (Dov Leshchinsky)